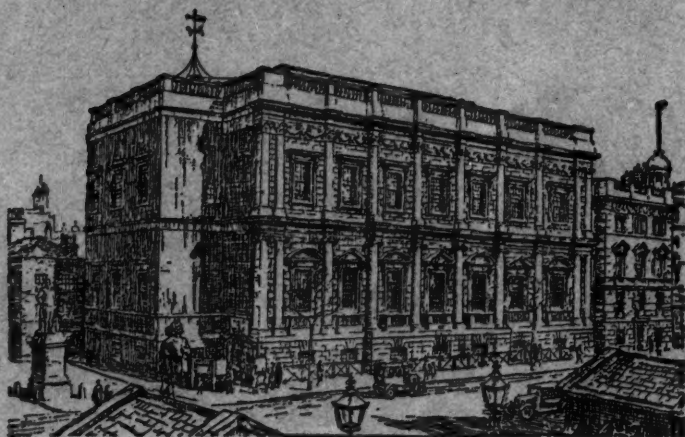


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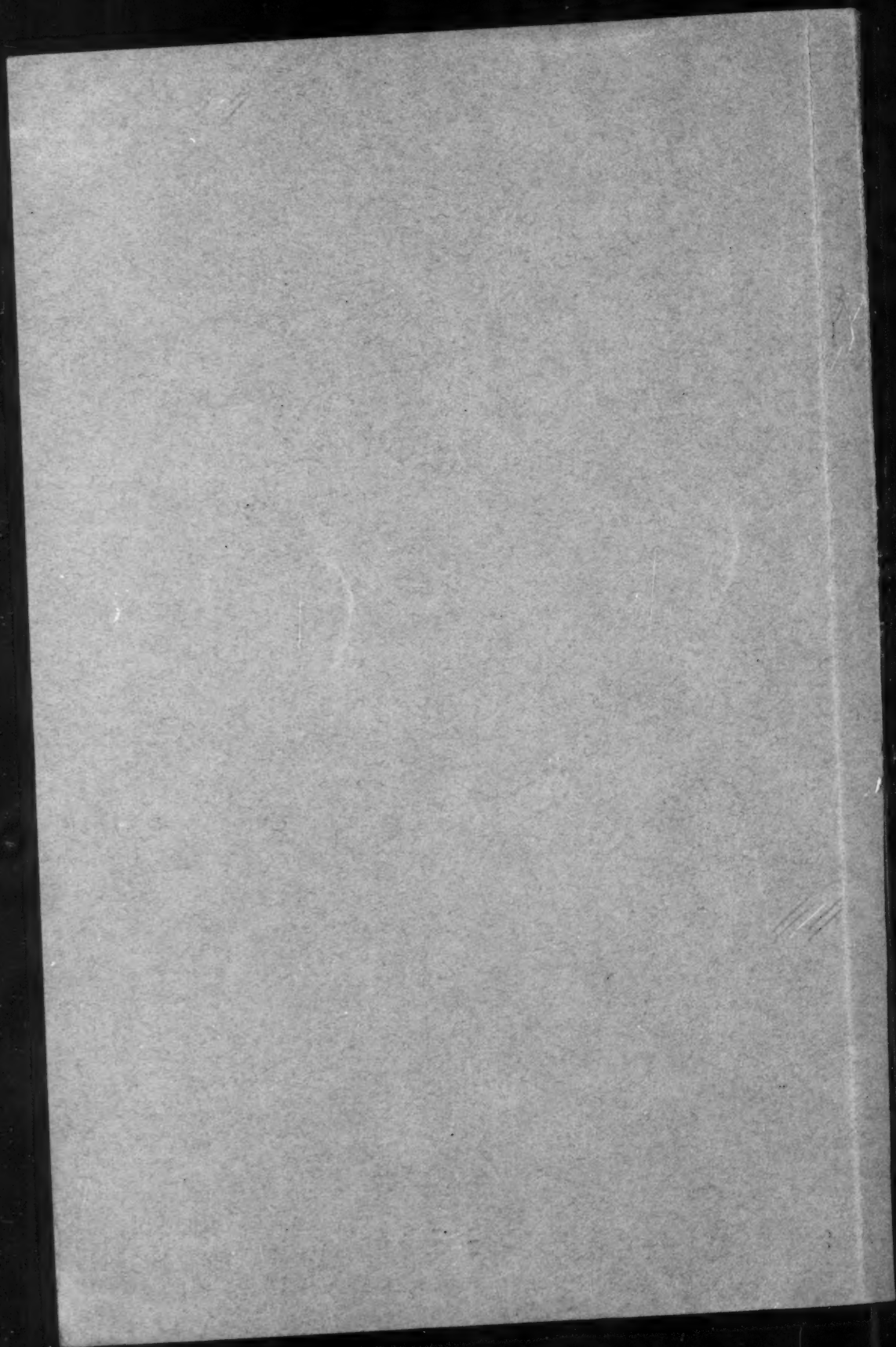
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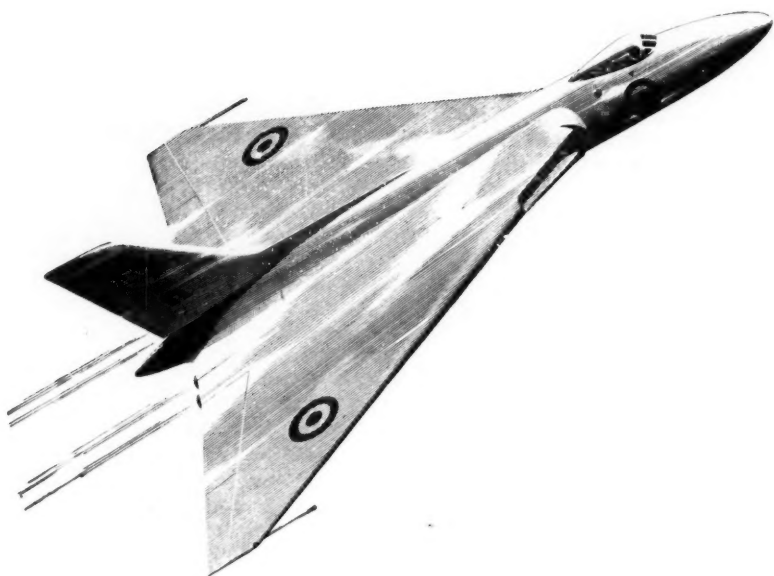
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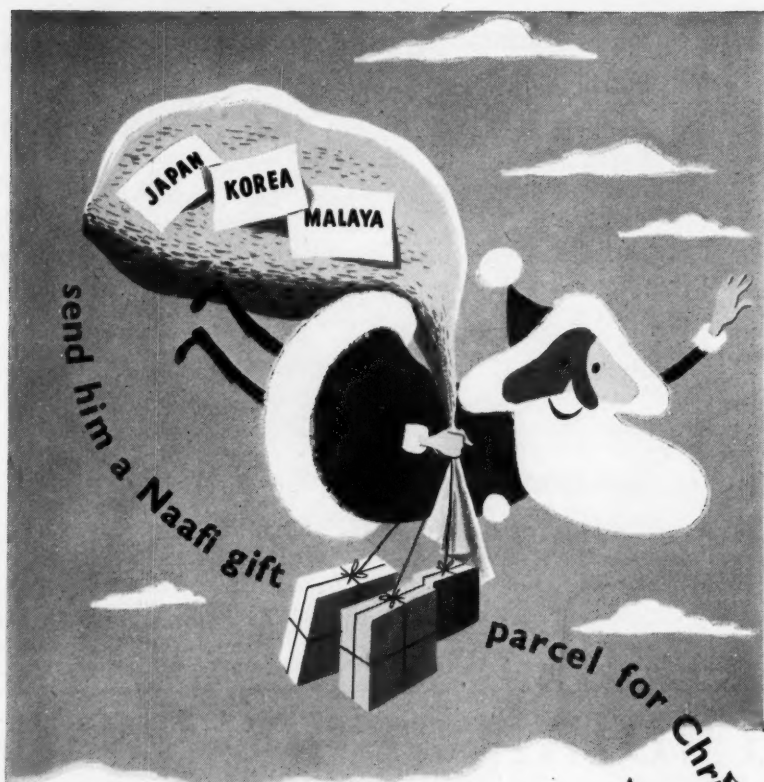
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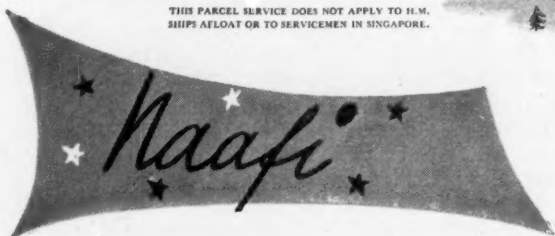


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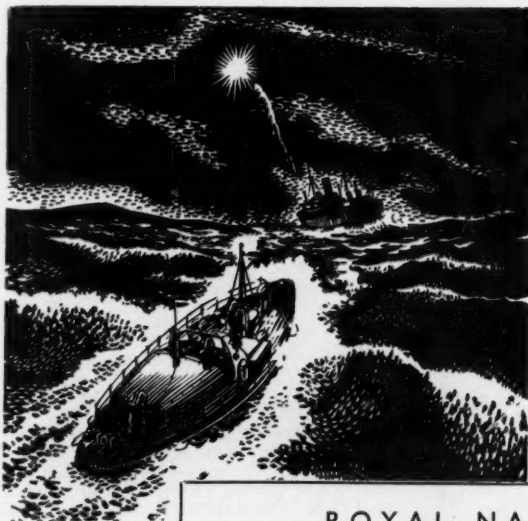
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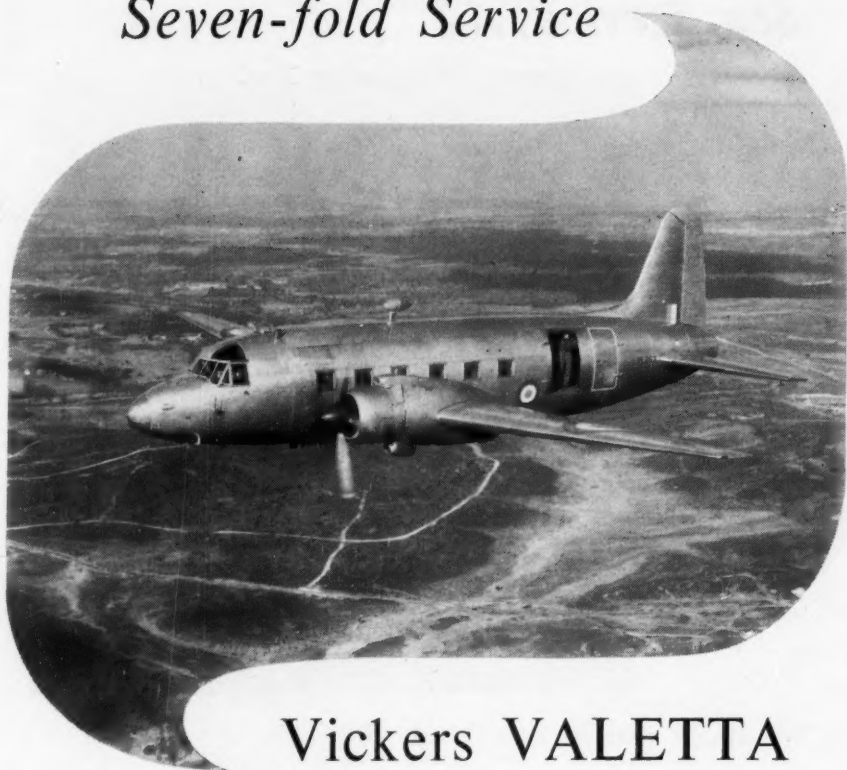
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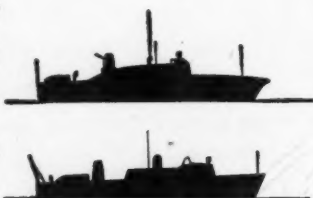
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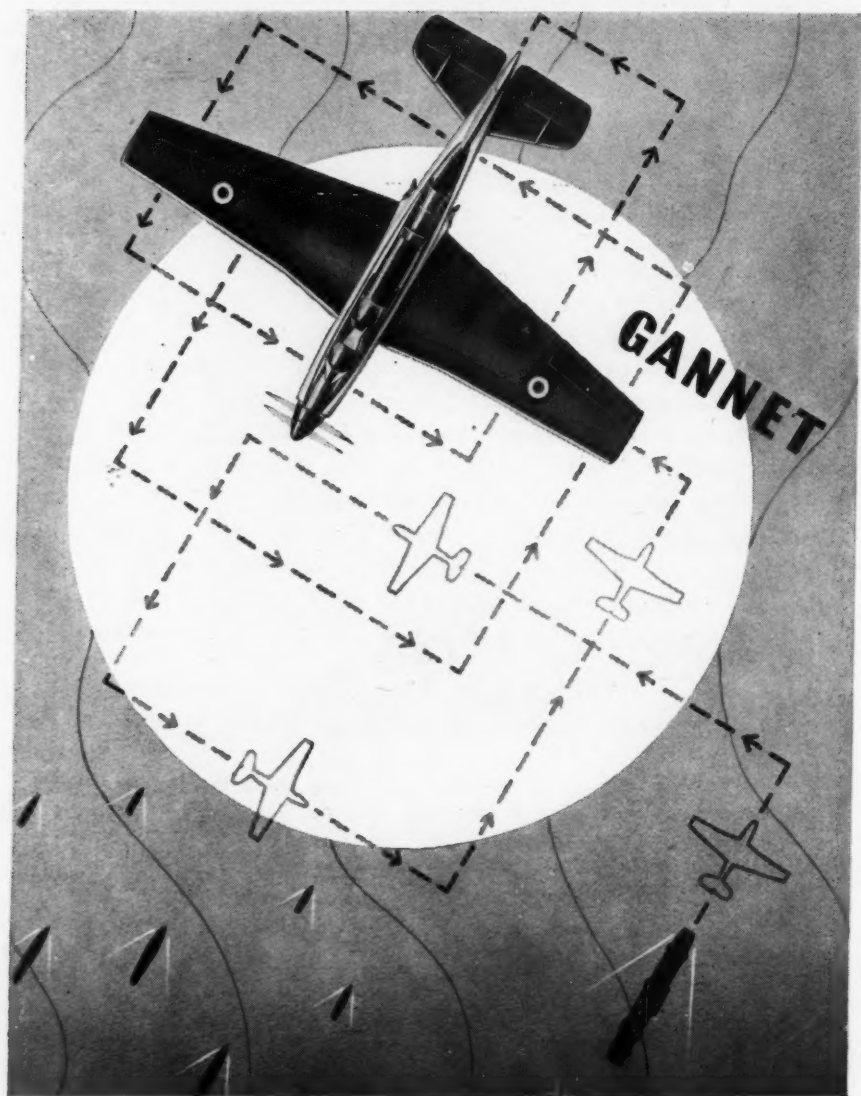
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November, 1952

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A registration fee of 1s. per ticket must accompany each application. This is not returnable. Cheques, postal orders, etc., should be crossed "R.U.S.I. Coronation A/c."

Tickets are necessary for members as well as their guests who must be known to them personally. Tickets are not transferable, and the name of the guest must be written on each ticket. The minimum age limit for children is 10.

A member may apply for tickets for a maximum of two guests and one for himself.

If the number of tickets applied for exceeds the available accommodation, a ballot will take place.

The price of each ticket is £3. In the event of the Procession not taking place or being postponed, the necessary percentage of all receipts will be retained in order to cover the expenses incurred.

All applications for tickets must be received by 21st March, 1953. No payments other than registration fees should be made until notification is received. The results of the ballot will be posted to all applicants on 31st March.

It will not be possible to provide a buffet, but it is hoped that coffee and soft drinks will be available. Ticket holders are therefore advised to bring their own light refreshments.

THE INSTITUTION BUILDING

On the day of the Procession no guests will be allowed in the Reading Room which is reserved for members only.

In order to avoid overcrowding and to assist members to reach the Institution, those who wish to use the Institution on that day are requested to apply for special "Members Only" tickets to view the Procession from the Reading Room. If necessary a ballot will be held, and the results will be notified by post on 31st March. There will be a charge for the extra facilities provided.

COUNCIL

Ex-Officio Member

General Sir John Harding, G.C.B., C.B.E., D.S.O., M.C., A.D.C., has accepted the invitation of the Council to become an ex-officio Member of the Council on taking up the appointment of Chief of the Imperial General Staff.

NEW MEMBERS

The following officers joined the Institution between 16th July and 20th October, 1952 :—

NAVY

A. J. Norcliffe, Esq., late R.N.V.R.
Commander T. S. Weston, D.S.O., D.S.C., R.N.
Commander A. St. J. Edwards, R.N.
Sub-Lieutenant N. Pascoe, R.N.
Lieut.-Commander G. P. St. Aubyn, R.N.
Captain (E) N. J. H. D'Arcy, R.N.
Lieut.-Commander J. D. P. Tiarks, R.N.

ARMY

Lieut.-Colonel G. Greaves, R.T.R., T.A.
Lieutenant K. F. Holtby, The King's Own Yorkshire Light Infantry, T.A.
Major-General I. C. A. Lauder, D.S.O., O.B.E., late Indian Army.
Captain P. J. W. Brandwood, M.C., The Border Regiment.
Major P. Massey, M.C., 1st The Royal Dragoons.
Captain G. R. Pyke, W.R.A.C., T.A.
Captain P. F. Goodall, late The Royal Sussex Regiment.
Major T. A. Pace, O.B.E., M.D., R.A.M.C.
Major H. J. C. J. L'Etang, R.A.M.C., T.A.
Major J. D. Lunt, 16th/5th Lancers.
Lieutenant J. M. G. Lumsden, 12th Royal Lancers.
Major T. St. G. Caulfeild, M.B.E., Royal Artillery.
Lieut.-Colonel Gurbaksh Singh, Indian Army.
Captain A. G. Janjua, The Guides Cavalry.
Major C. J. M. Weippert, 1st King's Dragoon Guards.
Captain A. Gwynne Jones, The South Wales Borderers.
Major J. C. K. Harrington, M.C., The Lancashire Fusiliers.
Captain K. Scott Simpson, The Middlesex Regiment.
Captain D. W. Rowley, Royal Artillery.
Captain G. G. Brown, 12th Royal Lancers.
Major R. E. Ward, D.S.O., M.C., R.T.R.
Major T. S. Gill, I.A.S.C.
Captain G. W. Pullen, R.A.O.C.
Captain N. A. H. Stafford, The Border Regiment.
2nd Lieutenant D. I. A. Mack, The Royal Scots Fusiliers.
Major N. E. Huber, Royal Artillery.
Major E. T. Horsford, M.C., 2nd K.E.O. Gurkha Rifles.
Captain I. D. Moss, R.A.S.C.
Lieutenant G. Hodgson, Royal Artillery.
Major J. C. Hathway, R.A.O.C.
Captain J. R. Tillard, The King's Royal Rifle Corps.
Captain D. E. Isles, The Duke of Wellington's Regiment.
Major P. D. J. Amato, R.A.O.C.
Lieut.-Colonel M. E. Moir, D.S.O., late Royal Artillery.
Major A. D. F. White, The North Staffordshire Regiment.
Brigadier Ata Mohd Khan, Pakistan Army.
Captain L. F. Cox, Royal Artillery.
Lieut.-Colonel D. A. C. Jackson, O.B.E., M.C., late Australian Infantry.
Lieut.-Colonel M. A. Pyke, O.B.E., M.C., Royal Artillery.
2nd Lieutenant P. A. V. Biddulph, Royal Artillery.
Captain T. A. Gibson, The Wiltshire Regiment.

Captain J. M. Woodhouse, M.C., The Dorset Regiment.
 Captain B. J. F. Swift, Royal Engineers, T.A.
 Major T. K. Pexton, R.A.O.C.

AIR FORCE

Squadron Leader R. T. Morison, M.B.E., R.A.F.
 Squadron Officer M. E. Hemelryk, W.R.A.F.
 Group Captain D. N. Kingston-Blair-Oliphant, O.B.E., R.A.F.
 Flying Officer W. C. Frearson, R.A.F.
 Air Commodore G. S. Shaw.
 Flight Lieutenant D. Naylor, B.E.M., R.A.F.
 Flight Lieutenant D. E. Burton, R.A.F.
 Squadron Leader R. E. W. Harland, R.A.F.
 Flight Lieutenant W. K. Hunter, R.A.F.
 Flying Officer S. H. D. Weigall, R.A.F.

PRIZE MEMBERSHIP

Acting Sub-Lieutenant J. M. N. Walton, R.N., and Pilot Officer J. W. Wilkinson, R.A.F., have been awarded five years' free membership of the Institution.

COVENANTED SUBSCRIPTIONS

The Council hope that many more members will support the scheme for covenanted subscriptions, details of which have been circulated to all members.

This materially assists the Institution because it enables income tax at the full current rate to be reclaimed on each subscription. It is emphasized that a deed of covenant entails no additional expense to the member, but it goes a long way towards meeting the increased essential costs of administration. Second and subsequent covenants may be executed at the old rate of £1 5s. od. per annum. The Council wish to thank the many members who have re-covenanted since the beginning of the year.

To date, there are 1,536 annual and 798 life covenanted members.

Any member who has not received his copy of the scheme or who requires new forms is requested to communicate with the Secretary.

LIAISON OFFICERS

The following alterations to the list of Liaison Officers, as published in February, have taken place:—

<i>Establishment or Command</i>	<i>Name</i>
ROYAL NAVY	
Portsmouth Group, R.M.	... Lieutenant A. Higson, R.M.
ROYAL AIR FORCE	
Far East Air Force	... Wing Commander R. O. Buskell, D.F.C., R.A.F.

WESTLAND PRIZE ESSAY COMPETITION, 1952

Particulars of this competition were issued with the JOURNAL for May, 1952.

MUSEUM

ADDITIONS

A dress sword of a flag officer, Royal Navy, 1811 (9568). Given by Miss E. Hume.
 A fighting sword of a flag officer, Royal Navy, 1833 (9569). Given by Miss E. Hume.
 A full dress tunic and sash of an officer of The Royal Irish Regiment, 1914 (9570). Given by Major E. J. Roche-Kelly.
 A painting on glass entitled "The Surrender of Tipoo's Sons to Lieutenant-General Harris" (9571). Given by W. H. Honey, Esq.

A print of an engraving of the meeting between Wellington and Nelson entitled "The Army and Navy" (9572). Given by W. H. Honey, Esq.

The Orders, etc., of Lieutenant-General the Right Hon. Sir Henry K. Stalks, G.C.B., G.C.M.G. Given by Lieut.-Colonel H. K. Sadler, D.S.O., M.C.

LIBRARY

A collection of coloured lantern slides of a number of British war medals and decorations has been presented to the Library by Lieut.-Colonel M. B. Savage, C.B.E., D.S.O. They are suitable for illustrating lectures, and members desiring to borrow any of these slides should apply to the Librarian.

JOURNAL

Offers of suitable contributions to the JOURNAL are invited. Confidential matter cannot be used, but there is ample scope for professional articles which contain useful lessons of the recent war; also contributions of a general Service character, such as strategic principles, command and leadership, morale, staff work, and naval, military, and air force history, customs, and traditions.

The Editor is authorized to receive articles from serving officers, and, if found suitable, to seek permission for their publication from the appropriate Service Department.

Army officers are reminded that such articles must be accompanied by the written approval of the author's commanding officer.

LECTURE PROGRAMME

The lecture "Internal Security Operations in Egypt, 1951-52" by Lieut.-General Sir George Erskine, K.C.B., K.B.E., D.S.O., arranged for 29th October, had to be cancelled. The Council and the Lecturer regret the disappointment caused to members. A notice was inserted in *The Times* of 4th October and the *Daily Telegraph* of 6th October, and all commands, establishments, clubs, etc., to which lecture notices are regularly posted were sent a similar number of cancellation notices on 3rd October.

CHANGES OF ADDRESS

Members are particularly requested to notify any change of address which will affect the dispatch of the JOURNAL.

Naval officers are strongly advised to keep the Institution informed of their address, as JOURNALS sent to them via C.W. Branch of the Admiralty are invariably greatly delayed.

CHRISTMAS CARDS

Orders for Christmas cards, specially designed for members of the Institution, can still be placed.

Card A has the crest of the Institution on the outside, and inside a reproduction of a black and white sketch of the exterior of the Banqueting House. The price, including envelopes, is 10s. a dozen.

Card B is a reproduction in colour of Queen Elizabeth I reviewing her troops before they embarked to fight the Spanish Armada; inside is the crest of the Institution. The price, including envelopes, is 16s. a dozen.

Postage in each case is 6d. for each dozen.

Members are requested to ensure that the correct remittance, including postage, is sent with their orders. It is regretted that orders cannot be executed until payment is made.

FOR SALE

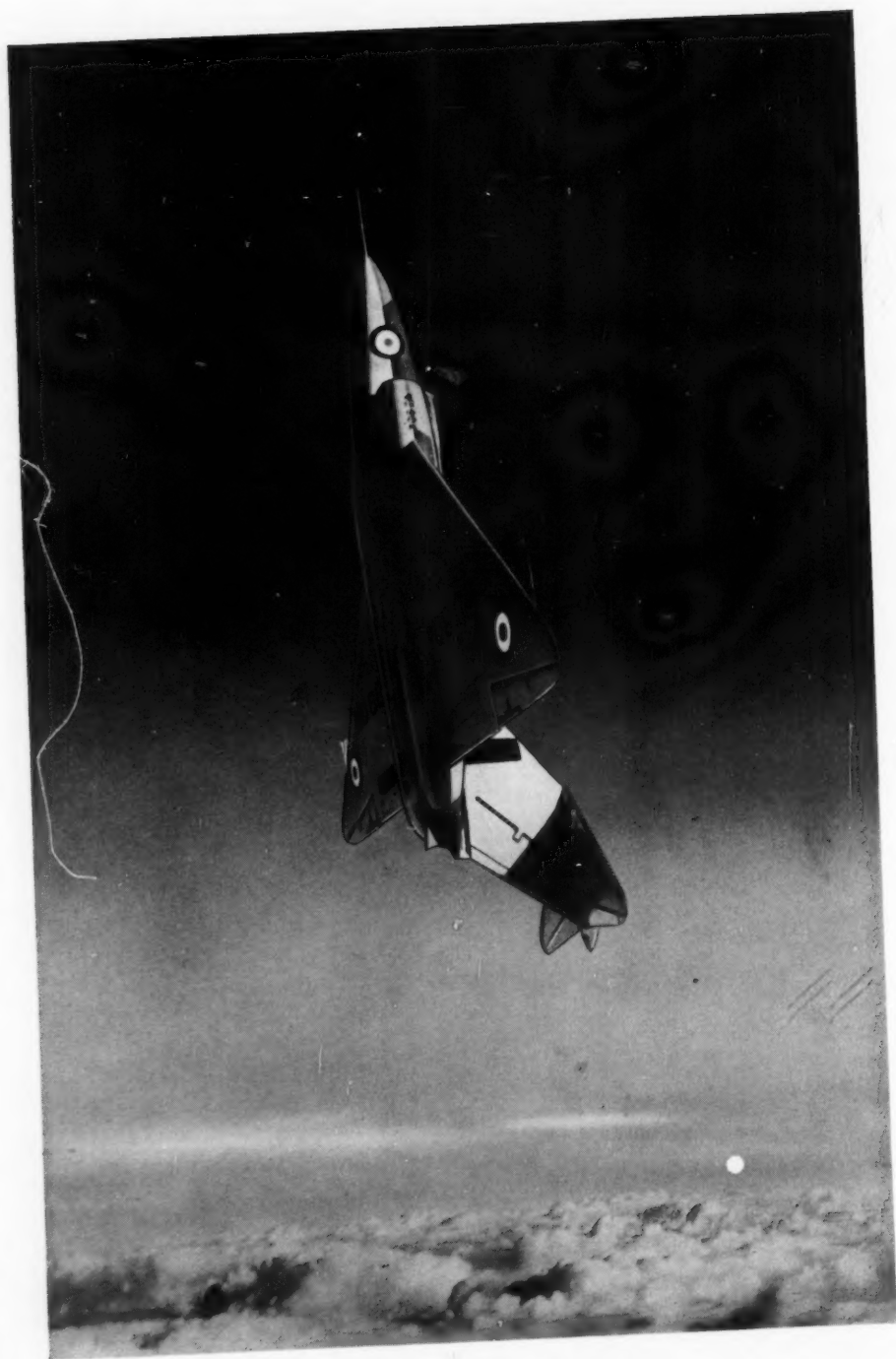
THE STRATEGY OF THE SOUTH-EAST ASIA CAMPAIGN

Owing to the demand for copies of the above-named lecture, given in 1946 by Admiral the Earl Mountbatten of Burma, arrangements have been made for a reprint, with the appropriate pull-out map; price 2s. 6d., post paid.

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THE NEED FOR A R.A.F. ANTI-SHIPPING FORCE

By WING COMMANDER C.N. FOXLEY-NORRIS, D.S.O., R.A.F.

Propaganda is a great influence in our time. It is perhaps because, since the last war, propaganda in the form of memoirs, biography, novel, or film has concentrated on the aeroplane as a fighter or a bomber that its role in anti-shipping warfare has lapsed into the background of public interest. Clearly, however, there must be some other and more valid reason why it has also fallen into a similar position in current Service thinking. There is, at present, no operational anti-shipping force in being in the R.A.F., nor, perhaps more surprisingly, any training or development unit to keep the gospel of such operations alive.

Before discussing the present situation it would be as well to evaluate briefly the history and achievements of the aircraft in operations against shipping.

A BRIEF HISTORY OF ANTI-SHIPPING OPERATIONS

1914-1939.—During the 1914-18 War, the aeroplane as a weapon of war did not progress far beyond the embryonic stage. As an anti-shipping weapon it was scarcely considered, which was understandable in view of its limitations of range and striking power as compared to the contemporary warship. What little part aircraft played in maritime operations was largely confined to reconnaissance. Men of vision, however, were able to detect in the speed and flexibility of the aeroplane a potential contribution of the greatest value to the fight for supremacy at sea. Their moment of vindication came when General Mitchell justified their claims by bombing and sinking a battleship at sea off Newport News in 1921.

The lesson of the future was there for all to see, but unfortunately several considerations combined to blind British eyes to it. First, the fact of our undisputed naval superiority over any potential enemy blunted the point of that lesson. Granted, an aircraft could sink a warship: but, since the Royal Navy, being supreme at sea, could do it just as effectively (some thought more so), why go to the expense of developing and producing a secondary weapon? Secondly, why trouble to evolve a specialized anti-shipping weapon when neither the strategy nor the economy of our potential enemies depended upon ships? Our potential enemy was Germany, or possibly Russia; both were land Powers, continental nations, whose life blood flowed through land communications, not, like our own, through merchant fleets.

These arguments, the supremacy of our Navy and the lack of enemy targets, combined to produce in the Services a general lack of interest and urgency toward anti-shipping operations. Both the Navy and the R.A.F. experimented with the

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technique of torpedo dropping from aircraft, and a few squadrons of such aircraft were established, but their comparative priority was low and their operational potential very limited.

1939-1945.—The first few months of the 1939-45 War did little to alter our traditional conceptions of the command at sea. The Navy was able to provide convoys to our merchant shipping and bar the seas to the enemy's. The chief threat to both our naval and supply ships proved to be, as expected, the submarine. It was not until the Spring of 1940 that the Norwegian campaign came to shatter our illusions. There is no place here to give the details of that campaign: it was the overall strategic lesson that was revolutionary. The Germans demonstrated that an inferior naval Power could operate ships over narrow seas with impunity against a vastly superior fleet, as long as command of the air was assured. In other words, in modern sea warfare the aeroplane, not the warship, was now the decisive factor.

Further demonstrations of this principle were not far to seek. German air power virtually closed the English channel to our major shipping; Italian and German air power for long periods did the same in the Mediterranean. The final proof came at Crete, where, in face of no enemy surface warships whatever, but within range of a powerful German bombing force and beyond the cover of our own fighters, the Royal Navy suffered extremely heavy losses, including eight ships sunk and a death roll of over 2,000 men. If the lesson needed further emphasis, this was provided by the Japanese, who, at Pearl Harbour and by the sinking of the *Repulse* and *Prince of Wales*, proved once again that the aircraft is the master in modern war at sea. That the lesson was not lost on the Royal Navy was shown by the exploits at Taranto and against the *Bismarck*, where the Fleet Air Arm showed themselves apt pupils of the new doctrine. These, however, were special occasions whose circumstances were unlikely to be repeated, and generally speaking our anti-shiping air force was still small and ineffective.

Thus our first major premise of the inter-war period, the supremacy of the Navy at sea, had been proved false. The second, that Germany had no requirement for, or dependence on, merchant shipping now went the same way. Two factors contributed to this development. The first was the expansion of German territory until the armies of the Reich occupied the whole of Northern Europe. Garrisons were situated from the North Cape to the Pyrenees, and these garrisons had to be supplied and re-inforced. Furthermore, the produce of occupied territory had to be fed back to the industry and people of Germany; of particular importance were iron ore and timber from Norway, but the manufactured goods and the raw materials of France and the Low Countries also had to be transported. The second factor was our own, and later the American, strategic bomber offensive: among its main targets, whether by direct or area attack, was the enemy's vital internal communication system of roads, railways, and canals. By selecting this target, we helped to drive Germany's commercial and military transport on to the seas. Thus the problems arising from her own conquests and from our strategic bombing both contributed to the diversion of traffic to coastal shipping. By the middle of 1941 there was a heavy and continual flow of coastal convoys all around the coasts of Northern Europe, from Trondheim to Brest: and we were powerless to stop it, or even to interfere effectively with it.

Attempts were made to do so but without success. Surface warships could not face the threat of the Luftwaffe. The coastal waters were mainly too shallow for direct submarine attacks: our aircraft mined them continually, but the effects of this mining were cumulative and not serious in the early stages of the war. Hurricanes of Fighter Command were used against shipping, but their range was short and their

armament inadequate. No. 2 Group, equipped with Blenheims, showed great gallantry in low-level bombing attacks, but results were disappointing and casualties very heavy. A new anti-shiping tactic, in default of dive-bombing for which we were not equipped, and a new weapon were needed. Fortunately both were at hand.

The weapon was the rocket: the tactic was the anti-shiping strike wing. The basic principle of the rocket was that of a self-propelled shell; it consisted of a warhead, a shaft containing the cordite propellant, and aero-dynamic guiding fins. Alternative warheads of 60 lb. explosive or 25 lb. armour-piercing were available, but experience showed the latter to be more effective, because it provided greater accuracy and underwater travel. The advantages of this weapon were many; it could be fired at high speed and ranges up to half a mile, reducing the danger of anti-aircraft fire; the load of a single aircraft, normally eight rockets, was the equivalent of a cruiser's broadside and quite sufficient to sink any merchantman or small warship; the damage could be inflicted below the waterline of the target; and the noise of the rocket produced a valuable secondary effect in the demoralization and consequent inaccuracy of anti-aircraft crews.

The tactic developed to exploit this weapon was mass attack delivered at maximum speed and low level, so giving minimum warning to the defences even if they included radar. All aircraft came in together or in very quick succession, and the whole attack was over in a matter of seconds, giving no time for the defence to summon re-inforcements. Strike wings to carry out such attacks were formed on the East coast of England, and were equipped with Beaufighters: later these were reinforced with wings in the South-West and in Scotland, some of which were equipped with Mosquitos. Once the tactic had been proved basically sound it was extended to other theatres, Beaufighter anti-shiping wings operating in the Mediterranean, the Aegean, and the Indian Ocean.

There is no space here to chronicle the full history of the campaign against the German coastal convoys. Suffice it to say that the anti-shiping wings met with immediate success, and, though the battle naturally swayed to and fro during the last three years of the war, that advantage was never lost. As soon as the seriousness of the threat became apparent, the German defences, escort ships, flak, balloons, and fighters, were steadily strengthened, until at the end of the war a single large merchantman might be escorted by as many as six warships. We evolved counter-tactics, including long-range fighter escort where necessary and the conversion of the first wave of the strike wing to a purely anti-flak role; and the interdiction of German coastal transport was progressively accomplished. The problems of night anti-shiping strikes were never solved with complete success, but air/sea mining proved a useful ancillary to the strike wings, and by the end of the war traffic had been reduced to an ineffective trickle. Testimony to this can be found in the Germans' failure to develop the planned northern bastion of their *Festung Europa* in Norway. The whole scheme depended on shiping; and the ships could not get through.

Before the lessons of this victory can be applied to the future, a brief assessment is required of the weapons and the aircraft used in and suited to the strike role.

ANTI-SHIPING WEAPONS

The weapons used in the past by aircraft against ships can be classified under the following headings; mines, guns, bombs, torpedoes, and rockets.

The Mine.—The mine differs basically from all other anti-shiping weapons in that it is not a missile aimed directly at an individual ship. It is laid in advance on sea

routes likely to be traversed by ships, in the hope that it will be detonated by their passage. There are many means of detonating and activating sea mines, but the general principle remains the same; the mine is a trap rather than a missile.

The indirectness of its threat necessarily makes the mine to some extent a weapon of chance, and large numbers must be laid in exact patterns and in precise locations if they are to be fully effective. It follows that the aircraft is not an ideal or economic means of mine-laying. An individual aircraft cannot carry more than a small fraction of the number of mines carried by a mine-laying cruiser or submarine; many aircraft are therefore needed to lay an extensive minefield, and the pattern is not likely to be of the required position; also mine-laying aircraft, being large and vulnerable, will normally operate by night and may have difficulty in fixing their exact position over the sea. The modern jet bomber operates most effectively at great heights, and economic and other factors will reduce the numbers available for all operations, and particularly mine-laying, which may be regarded as a secondary task. The air/sea mine itself can only operate efficiently in shallow water. Again, though a smaller consideration, air/sea mining is not a popular operation with air-crews; hazards are considerable but no results observed, and there is none of the excitement and morale-raising satisfaction that can be derived from more direct attacks.

Thus the aircraft's sole qualification as a mine-layer lies in its power to penetrate to some places otherwise inaccessible, e.g. in the mining of the Danube: in other respects it is not, and will become less suitable for the work, and its future use is likely to be only ancillary to that of mine-laying warships.

The Gun.—The defects of the gun as an airborne anti-shipping weapon can be simply summarized; the hole made by its projectile is not big enough and is above the water-line. Ships, except the smallest, can therefore normally only be damaged, not sunk by it. The heaviest calibre gun in general use in the R.A.F. aircraft in the 1939-45 War was the 20 millimetre. Attacks on shipping with guns of this calibre were very effective in the anti-flak role and extensive damage was done to superstructures, but no large merchantman or warship could be destroyed except by a lucky hit in a magazine or fuel tank. A 6-pounder gun was experimentally fitted in the Mosquito, designed for use against surfaced submarines, and a similar gun in the Mitchell bomber, but they met with little success. It seems probable that limitations of size and weight will always preclude the development of an effective airborne anti-shipping gun.

The Bomb.—The defect of the bomb, in its orthodox form, as an anti-shipping weapon is that it is dropped, not fired, i.e. its fall is uncontrolled and the aircraft must pass over, or nearly over, the ship under attack. That ship offers a very small and evasive target to high altitude bombing; the small lateral size of the target, its manoeuvrability, the time of fall of the bomb, and the need for clear weather make high-altitude bombing of ships extremely difficult.

Mention should perhaps be made here of the operations of 617 Squadron in the 1939-45 War. Their successes against such targets as the *Tirpitz* would appear to contradict the above statement and produce the answer to the problems of anti-shipping warfare. However, on examination, their exploits are not exactly relevant to the subject under discussion, in that their shipping targets were stationary and in harbour. Their speciality was precision penetration bombing of pin-point targets; where such targets comprised precision anchored warships their results were certainly outstanding. It seems doubtful, however, if they could have been repeated, in view of the difficulties listed above, had the target been at sea and taking violent evasive

action. The precision of such bombing requires, apart from clear weather, a straight bombing run (itself predicated on air superiority), and a manoeuvring target will not permit this.

Faced with these difficulties, a bomber must descend to low level to make an accurate attack on a ship. There are, however, two great drawbacks to this tactic, as exemplified by the operations of No. 2 Group in 1940-41; the vulnerability of the bomber and the unsuitability of its weapon. In a low-level bombing attack the bomber must approach and fly over the ship on a straight course, offering an excellent target to the anti-aircraft gunners of the ship and its escorts. Furthermore, the performance of the bomb, when dropped from low level is unpredictable; if it hits the deck of the ship it will more often than not bounce off it; if it hits the side of the ship (a very small target in a deep laden ship) it will make a large hole, but above the water line. Attempts were made to obtain such hits by 'skip-bombing' i.e. dropping the bomb short of the ship in the hope that it would bounce off the surface of the water, but anyone who has played 'ducks and drakes' in rough water will know how haphazard this must be in the open sea, even to the extent of the bomb's bounce imperilling the bombing aircraft.

Thus the free falling bomb is never an ideal anti-shiping weapon. Of the guided bomb more will be said when future operations are discussed.

The Torpedo.—The torpedo has two of the basic requirements of an anti-shiping weapon; it makes a large hole in the ship and that hole is below the water-line. Unfortunately, it also has definite limitations as an airborne weapon. The aircraft dropping it must fly straight, low, and very slowly directly toward the target and over the escort screen. It is thus extremely vulnerable to all forms of defence. Where escorts are absent, e.g. for the *Bismarck*, or surprise can be achieved, e.g. at Taranto, torpedo-carrying aircraft can do great execution, but where strong fighter or anti-aircraft defences exist the type of approach required produces prohibitive casualties, e.g. in the Swordfish attack on the *Scharnhorst* and *Gneisenau* in the Channel. Even where the aircraft miraculously survives, the violence of the defences and the manoeuvring of the target may put the pilot off the extremely accurate aim required. Thus, in circumstances that can be described as normal in anti-shiping operations, i.e. against heavy flak defences and probably fighters, the torpedo has serious limitations as an aerial anti-shiping weapon. These limitations may, however, be eliminated by later developments of the weapon, e.g. circling or pattern-running torpedoes with homing devices.

The Rocket.—The advantages of the rocket have already been mentioned. As used in the 1939-45 War its qualities as an anti-shiping weapon may be summarized as follows: it carried a heavy punch, one aircraft load being enough to sink any vessel but the largest warships; it had, with the armour-piercing head, predictable underwater travel and damage could thus be inflicted on a ship's vital point; it could be fired with great accuracy from ranges up to half a mile; the firing aircraft could be flown at top speed in a shallow dive, allowing for full evasive action until shortly before, and immediately after, discharge, and thus reducing the vulnerability to flak; and the results were spectacular and the noise terrifying, thus raising the morale of the aircrew and lowering that of the ships' crews. It was, in fact, almost the ideal weapon.

However, advances in anti-aircraft technique, such as the proximity fuse, will probably in future render even a high speed approach directly toward the target very hazardous, and the comparative short firing ranges used in the past may well have to be increased.

Weapons of the Future.—In discussing weapons of the future, thoughts automatically turn to the atomic bomb, on the assumption that its increased lethal area will neutralize any drawbacks arising from inaccuracy. Experiments have shown, however, that it is only an economical weapon of sea warfare if aimed at large and concentrated shipping targets, such as would be found in harbours or estuaries. In the open sea, dispersion would be an adequate defence against atomic bombing, or at least render it prohibitively wasteful.

Other new weapons may be produced or may already exist in secret; of those we know, the most effective has been shown to be the rocket. If a longer range rocket could be produced, preferably combining explosive and armour piercing qualities for underwater impact, it would appear to offer the best prospects for future anti-shipping operations. Ideally, too, the aircraft should not have to point directly towards the target; it should be possible to fire the rocket while the aircraft is flying parallel to the ship's or convoy's course, outside the range of anti-aircraft fire, and to steer the rocket toward the target. Experiments in this direction were made in the last war, but failed owing to inaccuracy in the amount of heading-deflection produced aerodynamically: with modern controls and homing methods such problems should prove soluble.

This would bring us back toward the German idea of the guided anti-shipping bomb, as exemplified by the HS 293; and, indeed, the guided rocket-propelled missile may well provide the eventual answer. The drawbacks of the German bomb were its size and complication, and therefore the size of the launching aircraft, and the length of time the latter had to spend in the combat area, again demanding complete air superiority for success. If the launching aircraft could be distracted or destroyed during the flight of the bomb, the latter became ineffective. The aircraft firing a guided rocket could probably be much faster and smaller, and the time of flight of the missile much shorter. Thus the tactic of the 'sneak' raid with a knock-out punch could be retained, and developed so as to keep casualties to a minimum.

ANTI-SHIPPING AIRCRAFT

Experience has shown that the ideal anti-shipping aircraft must carry a sufficient load to destroy its target; must have long range at low level; must be able to navigate accurately over the sea (this probably calls for at least a two-man crew); must be fast and manoeuvrable at low-level so as to evade static defences and, if necessary, intercepting fighters; and must, if possible, be sufficiently robust to absorb punishment, and have good sea-ditching qualities.

In the last war the nearest approach to this ideal was the Mosquito, but no shipping strike aircraft proved capable of dealing effectively with single-engined fighters, and the Mosquito's ditching qualities were not good. At least, however, it produced the best compromise to the diverse requirements. It has been suggested that the two-man crew navigational requirement puts an unnecessary handicap on the selection of strike aircraft, and that the problem could be solved by only the leader's aircraft carrying a navigator, e.g. a Mosquito to lead a force of Mustangs, or a Meteor 7 Meteor 8's. The objection is that all one's eggs are thus put in one basket: if the leader has mechanical or other trouble on the way to the target, the whole strike may be neutralized by the failure of one aircraft.

Future requirements will remain much the same as those of the past, but the advent of jet propulsion sets new problems. In jet-propelled flight, low altitude conflicts directly with range; it is virtually impossible to produce a small jet-

propelled aeroplane to fly long distances at low level. The difficulty cannot be overcome by flying to the target area at high altitude, since this would make target location very difficult and would also give such long radar warning of approach as virtually to ensure fighter interception before the target area could even be reached. On the other hand, the problem could not be satisfactorily solved by retaining propeller-driven aircraft, e.g. Sea Hornets, for, if intercepted, they would be hopelessly outclassed by jet-propelled fighters. The answer may well lie in a propeller-driven aircraft, with jet or rocket emergency power, but at present no solution has apparently been produced.

THE NEED FOR AN ANTI-SHIPPING FORCE

It is to be hoped that the above account of the accomplishments and potentialities of aircraft in the anti-shipping role will leave no one unconvinced of their value. Indeed, though the R.A.F. has at present no anti-shipping force, this cannot apparently be attributed to any ruling at high level that there is no need for such a force. There seems to be complete unanimity as to its ultimate desirability, and this view is strongly backed by authoritative opinion in the Royal Navy, which readily admits its inability to interfere drastically with coastal shipping around an enemy-occupied Europe.

No one then denies our need for an anti-shipping force, yet we do not possess one. The answer given to this apparent anomaly is that of comparative priority, i.e. we do need such a force, but not as badly as we need defensive fighters or strategic bombers or a tactical air force. In these days of stringent economy we must cut our coat according to our cloth; we cannot have every weapon we need; we must do without those for which the need is less urgent and less vital. The official view is that anti-shipping forces come under the latter heading, and that therefore we must do without them, at any rate for the present.

It is respectfully suggested that there is a fallacy in this reasoning. Clearly the facts of economic shortage are indisputable, but can the order of priorities produced be defended? Is it reasonable to postulate the need for a strategic bomber force but deny the need for the complementary anti-shipping force?

To do so would appear to invite a repetition of the events of the last war. Germany's conquests, and our bombing of her communications, drove her to resort to coastal shipping: for a long while we could do nothing to stop the latter, and the overall effect of our attacks on land communication was thus partially neutralized. The same situation would surely face us in another war. Russia, a great land Power, might overrun and occupy a large part of Europe. America and Great Britain, strong air Powers, would concentrate their bombers, *inter alia*, on land communication targets to paralyse the Russian economic system and slow their advance, pending our counter-attack. If such bombing were effective, Russia would be driven, just as Germany was, to depend more and more on sea communications for strategic and economic purposes. And, armed as we are, we could do little or nothing to interrupt them.

We would be in the position of a boxer who concentrates all his training and energies on blocking his opponent's left lead, and leaves himself wide open to his right hook. And, worse, we would be a boxer who had exactly the same trouble with his last opponent's right hook and ought to have learnt his lesson.

Perhaps, economically, we cannot now afford an anti-shipping force in being; but surely, equally, we cannot afford to let the doctrine and technique of aerial anti-shipping warfare perish utterly. If any lesson can be learnt from the past it is that the specialized techniques of air warfare, such as anti-shipping operations, cannot be learnt overnight or hastily improvised; a study of Bomber Command's prolonged teething troubles with night operations clearly points that moral. If there cannot be a force in being, at least there is a strong case for a cadre force, based on practical and theoretical experience; a force which can apply the technical advances of to-day to the practical lessons of yesterday, and which, in time of crisis, could provide a nucleus around which could be swiftly organized the effective anti-shipping forces that the Country and the R.A.F. will undoubtedly need in another war.

THE BATTLE-WINNER

By MAJOR REGINALD HARGREAVES, M.C.

"Energy—energy ! Speed ! Aptitude for war is aptitude for movement."

NAPOLEON BONAPARTE.

IN these days it is accepted as axiomatic that mobility is the mainspring of tactical success, since without it it is almost impossible to employ that most invaluable of military devices—the element of surprise. Speed and daring, it is recognized, will invariably get the better of mere mass ; since, as Alaric the Goth so trenchantly pointed out, "The thicker the wheat, the easier it is to cut."

Yet, singularly enough, the concept of mobility as the master-device in warfare's well-stocked repertoire is of relatively recent date. The classic phalanx of the Greeks, Macedonians, and Dardanians was characterized rather by ponderous weight of impact than by celerity of movement. Even the Roman Legion, despite its fringe of *ferentarii*, or lightly-armed skirmishers, was a solid rather than an agile body ; a battering ram rather than a lightning stroke, which relied upon its crushing strength and iron discipline to hew a way to victory rather than to achieve triumph through speed of manœuvre. As Kipling, in his memorable *Puck of Pook's Hill*, put it, through the mouth of the Centurion—himself a British-born Roman—addressing his men of the 13th Legion : "To tell the truth, they taught me the Roman step. You see, I'd only served with quick-marching auxiliaries. A legion's pace is altogether different. It is a long, slow stride, that never varies from sunrise to sunset. 'Rome's Race—Rome's Pace' as the proverb says. Twenty-four miles in eight hours, neither more nor less. Head and spear up, shield on your back, cuirass-collar open one hand's breadth—and that's how you take the Eagles through Britain—and the world."

But a processional pace, such as the *Passo Romano*, on the line of march is apt to foster a habit of mind which puts a premium on 'slow motion' when it comes to battle-fighting.

Mobility in the individual soldier is largely a matter of the weight of the arms and equipment with which he is burdened ; with the unit, a question of the speed attainable by its transport.

The Roman soldier, weighed down with helmet, cuirass, greaves, shield, a heavy *spathae* (or sword), a lighter *semispathae*, five loaded javelins for use as missiles, and two more of, respectively, five feet six and three feet six,¹ for close-combat, plus—on the line of march—rations for at least three days, a section of shelter tent, a mess-kit, cooking spit, pot, drinking cup, a basket of spare clothing, and either a spade, saw, pickaxe, or sickle, was about as suitably equipped for nimbleness in action as the White Knight in *Alice in Wonderland*. His personal belongings, carried on a forked pole, could, on occasion, be deposited with the general baggage—tents, grain-mills, extra *pila*, and the artillery—the bulk of which was transported by pack animal. For the approach-march, however, the legionary was usually encumbered with a burden of some 70 to 80 lb., in addition to the very considerable weight of his body-armour and weapons.

It is true that Marshal Saxe cites an instance of legionaries marching 24 miles in five hours—stimulated by military music which set the pace and maintained it with

¹Known variously by the name of *pilum* or *spiculum*, and *verriculum* or *verutum*. Vide the *De Re Militari* of Vegetius.

a steady cadence. But this represents an exceptional performance, with the men unhindered with pack or anything other than 'light order' body armour and weapons.² The norm of 24 miles in eight hours was rarely exceeded.

All in all, it is little to be wondered at that with the Roman generals a high standard of mobility was not the overriding desideratum it was subsequently to become. In the outcome, admirably as they knew their men would fight if brought to combat, the majority of the pro-consuls came to abide by the axiom of Vegetius, that "it is better to overcome the enemy by famine . . . or terror than by general actions; for in the latter fortune often has a greater share than valour." In effect, Rome's headlong decline as a military power can be attributed as much to its neglect to cultivate mobility—and therefore battle-winning superiority—in its troops, as to the invertebracy of its reliance on foreign auxiliaries to fight those battles it had been unsuccessful in avoiding.

The earlier mediæval armies executed few manœuvres and essayed few surprises beyond a virtually static *ambuscado*. A head-on crash, followed by a ding-dong exchange of 'hand-strokes,' was mostly the way things went; with the heavily-armoured Cavalry lumbering up to try and overwhelm "the rabble of foot" by sheer strength and weight. Even when the bowman changed the whole complexion of the contemporary battlefield by demonstrating the power resident in deftly-wielded missile weapons, frontal attacks were still persisted in, with an almost total disregard of the opportunities for surprise offered by swift manœuvre on the flanks.

It is true that at Crécy (26th August, 1346), the English right flank was protected, to a degree, by a thick belt of forest. But there was nothing to prevent the French from making a swift, wide sweep and attacking King Edward's left flank and rear from the North-East. Even the forest belt was not impenetrable, nor the stream of the Maye, which lay between it and the English right, unfordable. Apparently, however, the possibility of such movements on the flanks never so much as entered the Frenchmen's heads. In any case the force at King Philip's disposal was so unpractised in speedy manœuvre that any such attempt would undoubtedly have been stillborn. In the result, the French and their allies advanced in the primitive, conventional style, with the cross-bowmen in the van. These, when outshot and reduced to demoralization by the English archers, broke up in confusion, leaving the issue of the day to be determined by the armoured chivalry, on their clumsy chargers. Hindered by the disordered mob of retreating arbalesters and slowed down by the quagmire at the foot of the slope on which the English were deployed, the Horse became little more than a sitting target for the hail of shafts that poured in on them "with such force and quickness, that it seemed as if it snowed; . . . and they could never rally again."³

²Yet it was Saxe who, after expressing admiration for the Roman performance and deploring the marching abilities of the French, went on to voice the extraordinary pronouncement, "It is needless to be afraid of over-loading the infantry with arms; this will make them more steady"! General Patton, on the other hand, followed Wellington's precept, which recommended stripping down the foot-soldier to the barest essentials to ensure mobility.

³Froissart. At the best of times the mediæval charge was no whirlwind, thundering gallop; the unfortunate steeds being weighed down by a load of upwards of 400 lb. If a greater pace than four miles an hour was achieved, the going was exceptionally good. At Crécy it had rained heavily overnight, and the going was abominable.

But although the lesson of Crécy was perfectly clear—that a master missile-weapon can only be successfully competed with by 'containing' the front and initiating swift and resolute action on the flanks; as General Patton put it, "Hold him by the nose with fire and kick him in the pants with movement"—it was to be many a long day before the moral achieved general recognition.

The mediæval army on the line of march—even on an approach-march—was a perfect example of a formation slowed down by the pace of its sluggish transport. March-discipline was virtually non-existent; and only with the pikemen was some attempt made to march in step, mainly with the laudable idea of keeping the shouldered weapons clear of each other.⁴ But there was nothing more than an ill-played drum or fife to furnish that military music which, in later days, Marshal Saxe so consistently relied upon to set the pace and maintain the rhythm that impeccable and long-sustained marching so obviously demands.

But the real trouble lay in the fact that the rate of the whole column was entirely governed by its tail. And what a tail!

Shuffling along with the clumsy baggage carts and scrawny pack-animals, a horde of sutlers, vintners, fleshers, bawds, soldiers' wives, and assorted camp followers, lagged and straggled with cheerful disregard for every exhortation hurled at them by the waggon-master and his sadly overworked confrère, the *hüremweibel*. Almost invariably, the swarm of hangers-on outnumbered the actual fighting force by anything from three to five to one; and never was there a more striking instance of the tail wagging the dog. 'Supply'—in its widest sense—carried the day at the cost of mobility.⁵

Saxon Harold's remarkable forced march from Stamford Bridge to London, for example—200 miles, over execrable roads, in under five days—was only accomplished at the cost of abandoning his baggage and his baggages—and reducing his remnant of troops to such a pitiful state of distress that it was another six days before he could venture to move coastwards to confront William's fresh and well-rested invasion forces in the Battle of Hastings (14th October, 1066).

The tradition of leisureliness associated with the classic *Passo Romano* had found such ready acceptance throughout the years as virtually to have eliminated real mobility from the whole practice of war.

The introduction of gunpowder gave an inadvertent fillip to mobility as men and steeds began progressively to discard the cumbersome body-armour which had proved so unavailing as a protection against the new type of missiles—when, as occasionally happened, they actually hit their target. In consequence of the greater freedom of movement permitted the foot-soldier, the pace of the march appreciably accelerated. Whereafter, the Horse, having assimilated the folly of frontal charges against troops equipped with firearms, were driven to an elementary development of

⁴With the disappearance of the pike, all attempts to keep in step were abandoned, until the practice was revived by the French War Minister, Luvois (1641-91), who also instituted arms drill, based on a series of standardized movements.

⁵In Europe, camp-followers remained the curse of armies right up to the days of the Crimea; and it is no reflection on the valour and battle-worthiness of Washington's troops to suggest that much of their success was attributable to the superior mobility conferred on a force which went happily unencumbered by a horde of hangers-on. With the British the reverse was the almost invariable rule; and bitterly they paid for it—in particular, Burgoyne.

the flank attack. These were launched at speed and with the employment, wherever possible, of the demoralizing element of surprise.

But the Infantry still fought in solid masses, bludgeoning away at each other like bulls at a gate, with recourse to the minimum of tactical manœuvre. Equally, their rate of progression on the line of march still remained at the mercy of a bumbling baggage-train and its deadweight of parasites; creeping over roads that were themselves anything but an encouragement to smooth and rapid transportation.

By the middle of the XVII Century the technique of warfare had degenerated into little more than a set of conventions governing something which can only be described as a stylised, set-to-partners, military quadrille. Tied to fixed 'magazines' which severely limited the scope of their activities, the armies of central Europe were content, for the most part, to deploy themselves circumspectly, to a formalized pattern, with the object of disadvantaging and immobilizing their opponent by a 'masterly' manœuvre which would place him, according to the agreed rules of the game, in a technically 'impossible' position. Apart from an occasional ambushade, all attempts to engineer surprise had virtually fallen into disuse. Indeed, such a thing as a full-scale, all-out clash of arms in which decisive victory should be sought, even at small risk was frowned upon severely. By 1740, Saxe could pronounce, without arousing derision or reproof, "I am not in favour of giving battle; . . . I am convinced that a very clever general can wage war all his life without having to fight one." Furthermore, Massenbach could write admiringly of Frederick the Great's brother, Prince Henry of Prussia, "More successful than Cæsar at Dyrrachium, greater than Condé at Rocroi, he, like the immortal Berwick, won his victories without battle."

A concept more calculated to keep a country in a perpetual state of warfare can scarcely be conceived; nor could there be a greater abnegation of the dictum that war, if waged at all, should be prosecuted to bring about a better condition of peace. For it is patent that so long as your adversary retains an army-in-being, so long will he remain a factor with whom to reckon. And the best way to see to it that he does not retain an army-in-being is to put the one he does possess decisively out of business.

Small wonder that such commanders as Tallard, Boufflers, Villars, and Vendôme, blandly anticipant of that pedantic travesty of military doctrine which Massenbach admired so warmly, should have found the dashing heterodoxy of the Duke of Marlborough's stunning and unequivocal victories as scandalous as it was baffling. For it was based, very largely, on rapidity of movement combined with great flexibility in tactical manœuvre.

Enormously advantaged by having perfected a rough-and-ready system of supply which cut him free from the restriction on mobility imposed by fixed 'magazines,' by his employment of pace to cover space well ahead of contemporary schedule, 'Corporal John,' as the saying goes, made rings round his opponents time and time again.⁶

In the real sense of the term, war of movement may be said to have begun from the day the Duke of Marlborough took over supreme command in the Low Countries.

⁶For example, his forced march to the Danube; when, leaving Cologne on 19th May, 1704, and, with a detour and three days' halt at Mundelsheim, his Cavalry reached the Donauwörth area on 9th June, his concentration being completed on 11th June. Thus the Cavalry had completed a 300 mile march, over vile roads, in 18 and the Infantry and Artillery in 20 (marching) days.

On almost every occasion Marlborough achieved his spectacular results by the employment of a judiciously balanced force of all arms; although for the purpose of engineering a deceptive feint it was his practice to rely on the superior mobility of his Horse.⁷ Thus in the passage of Villars' "impregnable" *Ne Plus Ultra* lines, in the Spring of 1711, the Cavalry were utilized to bewilder the French in a feint from which only their own speed of movement, aided by the fall of darkness, enabled them to return in time to embark on the masterly manoeuvre which was to turn the enemy flank and reduce all Villars' elaborate defences to the uselessness of the Maginot Line after the German break-through west of Sedan in 1940. Needless to add, a strong, fresh body of Infantry, stepping out with a will, was ready to hand when the moment came for the *arme blanche* to seek support. "Held by the nose" by guile (in this instance) and "kicked in the pants" by the speed at which a vigorous attack had been developed at the point of greatest vulnerability, Villars' "impregnable" edifice of defence collapsed like a house of cards.

It was rather a different tale at Warburg, in the blazing July of 1760, when Prince Ferdinand of Brunswick was brought the news that an isolated French force was positively asking to be snapped up by a stroke in which speed was of the very essence of the contract. The British contingent of the Allied Army, lying within ten miles of the Gallic force sunning itself on the banks of the Diemel, was immediately set in motion, under the command of the Marquis of Granby. But the day was pitilessly hot, the going difficult and, in places, almost impassably marshy; and although none of the heavily-burdened Infantry fell out, many dropped in their tracks from sheer exhaustion; while the rate of march declined with every painful mile traversed.

There was nothing for it but for Granby to push forward in all haste with the Cavalry only, supported by a few 'pop-guns' of the Flying Artillery. Away went the two-and-twenty squadrons at a trot, "the field pieces accompanying them at a speed which amazed all beholders."⁸ At the head of his own regiment of the Blues, rode the noble Marquis himself, his face streaming with sweat and his prominent eyes almost starting from his head with eagerness and excitement.

Arriving panting on the field of battle, the British Horse paused only long enough to form line before hurling itself headlong at de Broglie's astonished Frenchmen. At its head rode Granby, his tricorne hat long since discarded and his dome-like bald head shining in the sun "like a good deed in a naughty world."⁹ Behind him the long ranks of troopers, cheering wildly between Homeric gusts of laughter at the spectacle of so novel an oriflamme of victory, crashed home so purposefully that almost in a breath the French were broken and scattered.

It was no fault of the toiling, overburdened Infantry that they arrived on the scene when virtually all was over bar the shouting. It was simply that they had been trained and equipped for almost everything but mobility.

Few things can have been more pedesurian than the movements of the British

⁷A Horse, be it understood, very largely composed of Dragoons, trained to fight on foot as well as a-horse. For that matter, Marlborough never hesitated to dismount his 'Heavies' and send them in as Infantry—as at Blenheim, when the Scots Greys were launched against the enemy centre *à pied*.

⁸Tempelhoff's 'Memoirs.' Phillips, of Minden fame, and later a notable figure of the War of Independence, was in command of the guns.

⁹Contrary to usual custom, Granby never wore a wig; and his Kevenhuller hat blowing off in the charge, the horrid nudity of his cranium was fully exposed.

commanders in the American War of Independence; men, be it noted, compelled to rely almost exclusively on the services of Infantry. The follow-up after Howe's victory at Long Island, for example, was so dilatory that, owing to the celerity and good work displayed by the 14th Foot Regiment of the Continental Line¹⁰—recruited almost exclusively from the boat-handy fishermen of Marblehead—Washington was enabled to evacuate his wounded and withdraw his troops, down to the last rearguard, almost unmolested. The fault lay in part with Howe's natural bias towards inaction; but want of a real doctrine of mobility in his troops was equally to blame.

Again, want of training in mobility, in troops in any case grossly overburdened with equipment, and slowed down by an enormous tail, was as much responsible for Burgoyne's dawdling advance on the Hudson as the difficult nature of the country to be traversed.

Washington's valiant dash across the Delaware, in the teeth of the most appalling weather, to catch the Hessians napping at Trenton, set a better pace. But *organized, concerted* essays in mobility were not an outstanding feature of his subsequent operations. Rather, the genius of the Continental forces lay in an individual nimbleness and tactical resource, which proved particularly effective in the type of warfare developed by the nature of the terrain over which they fought; and to which they so adroitly made their bewildered opponents conform. For the British redcoat was still hampered by the clogging impedimenta with which he was hung about, and frequently led into error by the inflexible formalism of the rules he had learned on the battlefields of Europe.

If, as has been contended, the American soldier of the Revolutionary War—in the main almost as lightly burdened as the men of the Boer Commandoes of the South African campaign of 1899–1902—found the weight of his field outfit a serious menace to his mobility, the British redcoat was in far worse case under his burden of something like 125 lb. It may fairly be said that the experiences undergone throughout the War of Independence occasioned the first real attempts to facilitate mobility by lightening the burden carried by the individual foot-slogger.

The man in the ranks fights a battle only occasionally; but he is hungry, with great punctuality, three times a day. The question of his alimentation and his obligation to carry a heavy load of it on his person, has, therefore, always constituted a major factor in the problem of weight-reduction as a means of ensuring mobility. The old, cumbersome methods of ensuring subsistence—the burdensome company cauldrons, the lumbering bread-waggons, the crawling fourgons of the commissaries and sutlers, the slow-pacing flocks of sheep and herds of beef-on-the-hoof—could only be improved upon if cooking utensils could be made less heavy and the food itself put up in more concentrated form. To take the weight off his feet in this direction was as essential as to lighten the burden of his weapons.

To the solution of this highly-important problem many outstanding military leaders have diligently addressed themselves. So early as mid-XIVth Century, for instance, Froissart speaks of Charles VI of France preparing large stocks of "yolks of eggs in powder and rammed in barrels," as a preliminary to an attempted invasion of England. Just over four centuries later, one of the first things that Wellington did on landing at Mondego Bay in Portugal, in 1808, was to scrap all the unwieldy iron mess-kettles then in issue, substituting much lighter vessels in their stead. "It is no matter if they don't last," he laid it down, "so long as they can be easily handled. If they wear out, they can be replaced."

¹⁰Plus a helpful south-westerly wind and a little adventitious fog.

Biscuit had, of course, long been in use in lieu of bread. So early as the Thirty Years' War Wallenstein had consistently accompanied his field armies with a reserve supply, for issue in the event of a shortage of freshly baked loaves; while Napoleon affirmed that "Biscuit makes war possible." Furthermore, it was Napoleon who offered a handsome reward for any man who could devise a method of preserving meat, to serve as field rations. The prize was won by Nicholas Appert, whose glass containers anticipated the tinned meat of later days. The less fragile canning process was first evolved by a London firm of caterers, Donkin and Hall, of Bermondsey; who, in 1813, supplied a small quantity of meat in canisters to the Navy. Labelled *boeuf bouilli*, with rough-tongued sailors impatient of truckling to fancy foreign accents, it soon came to be given that name of 'bully' beef by which it is now known throughout the world. After a not particularly encouraging start, following a further and more searching try-out with certain arctic expeditions, it found general adoption throughout the Navy. After all, it was a slight improvement on magotty 'salt-horse'! The military made unenthusiastic acquaintance with it during the Kaffir War of 1851-2; and reports on it from the Crimea were singularly lacking in warmth. But improvements in canning did something to enhance its tempered popularity with the Ashanti campaign of 1873; whereafter it took its unhonoured place as a staple of field military rations.

Connecticut gave the world—and the fighting man—the boon of condensed milk in 1848; and John William de Forest, novelist and Captain in the 12th Connecticut Volunteers, has left a record of his warm appreciation of a gift of canned food and condensed milk from the Sanitary Commission, which was donated him at Georgetown Heights in the July of 1864.

The burden of the soldier's actual alimentation—as well as the cumbrous nature of its demand on wheeled transport—had certainly been lightened; if the vessels involved in its consumption could undergo a similar reduction in weight, the individual man's mobility would be proportionately increased. That stage was in sight when Napoleon III perceived the possibilities involved in utilizing aluminium as the metal for water bottles, mess utensils, and the like. At first its outrageous cost—\$16.00 an ounce—threatened to prohibit its adoption for military needs. But when, in 1886, an American inventor succeeded in freeing aluminium from its ore by electrical process, the way was paved for the manufacture of a score of warlike necessities in lightweight metal—and for the ultimate 80 per cent. aluminium aeroplane of the United States Air Force.

It was another American, Herman Haupt, who, in the War of Secession, demonstrated what astounding use could be made of the railway as an obedient servant of military mobility. To spare the soldier the fatigue of long approach-marches and decant him and his equipment on the very verge of the combat zone; to switch large bodies of troops at speed to a decisive strategical point—in the absence of all aerial interference that was a function the 'iron horse' exhibited its ability to perform with remarkable punctuality and despatch.

It was a lesson not lost on Europe, as the opening phase of the Franco-German conflict of 1870-71 clearly demonstrated. That the use of railways for the swift deployment of troops demanded staff planning of the highest level was equally to be apprehended. For while Moltke, having 'pressed the button' to set his plans in motion, could sit back and enjoy a novel, confident that everything would go forward without hitch, on the Gallic side of the frontier mobilization immediately evoked a state of things indistinguishable from the chaotic. Colonels in search of their regiments; a mere 38 bakers sent forward to rail-head to cope with a force of 120,000

men ; reservists journeying for days to report to a unit eventually run to earth in their own home town¹¹—the confusion was such as very cogently to suggest that the organization of mobility demanded a technique which could only be acquired as the outcome of long and arduous training.

It was also brought sharply home to all concerned that it is useless to deliver a soldier at a rail-head on the edge of the battle-zone and then leave him so loaded up with personal lumber that mobility in action would be a sheer physical impossibility.

That is a problem which still confronts the overburdened glider-borne or lorried infantryman of to-day ; whose training, incidentally, should make a point of ensuring that he does not encourage himself to become truck-bound. For in the very nature of things, he is a man from whom is demanded the very highest degree of mobility. No longer is there any fleet-footed Horse to feint and operate ahead of him. And as often as not, instead of the armour punching a hole for him to go through, he will find the boot on the other leg—as at El Alamein, where it was the Infantry's responsibility to nurse the A.F.V's into action. Yet 'factory-war' has weighed him down with too much lumber, *in most instances far too substantially made*. And it is no answer to the question to distribute the load over two or more men—making specialists, in short. That is to get too many targets on the ground ; for too much thickening-up merely increases the opportunity for an enemy bullet to find a billet.

Light, rain-resisting, wind-proof clothing, not meant to last out one war and carry on into the next ; water-bottles and mess-kits of material with as little weight to it as Bakelite ; equipment not of heavy leather or webbing, but of something in the nature of the plastic used for the manufacture of a light-weight mackintosh—these are not beyond the bounds of practicability. Footgear is a problem not so easy of solution. But something might be done in the way of a crêpe rubber outer sole, with a thin inner sole of leather and light uppers—not designed for longevity—worn in conjunction with a spat-gaiter of the selfsame plastic. Even the rifle and other personal weapons might have skeleton stocks, such as those fabricated for the machine-pistol and the Sten. For presenting arms and for ceremonial purposes, a dozen or so of the older variety could repose in stately dignity at battalion head-quarters !

Thereafter, it is almost certain that science would be able to evolve a battle-action-only ration in such concentrated form that its addition to the soldier's lightened burden would hardly be noticeable. If only something could be done about the appalling incubus of the 'noddle-bucket,' 'tin-hat,' or 'battle-bowler,' the soldier might be able to lift up his head as well as his feet.

War, with its ever-increasing catalogue of assorted ironmongery, is putting on weight disgracefully. Yet the war to which the Western World is most likely to find itself committed will be—on present showing—a conflict fought out in the main by the men of the Infantry. It well may be that the "race is not always to the swift, nor the battle to the strong," but it is a practical certainty that it is not, nor ever can be, to the slow, the hampered, and the debilitated.

"Battles are as much won by feet," quoth Wellington, "as they are by arms." But they are not won by feet weighed down by an intolerable burden.

¹¹One man, for example a reservist of the 4th Zouaves, living in lower Alsace, reported to Strasbourg, where his old regiment was in garrison. From Strasbourg he was despatched to Marseilles and thence to North Africa. A two-day march brought him to the dépôt of his regiment, where he was equipped and given his route for Marseilles ; whence he was forwarded once more to Strasbourg ; to report to his unit after a journey of well over a thousand miles.

MILITARY MATERIAL HANDLING

By MAJOR J. E. L. CARTER, M.C., A.M.I.C.E., R.E.

MATERIAL handling is a general term covering a group of subjects relating to the movement of materials along any particular channel of supply. These subjects include the handling of materials into and out of different forms of transport, between machines and productive processes, into and out of storage, and for maintenance and inspection. Material handling is also concerned intimately with the preservation, protection, and documentation of stores in movement. The object of this article is to show that material handling is one of the major factors of war, and that its study, though less interesting perhaps than that of armoured warfare or the atom bomb, is of little less consequence.

Before proceeding to consider the importance of material handling in the conduct of war it is interesting to mention certain recent developments in the processes of peace. A principle of industry which has long been established is that handling adds nothing to the value of a product, only to its cost. The productivity teams sent over to the United States in 1948, under the auspices of the Anglo-American Council on Productivity, soon realized that this principle was very much better appreciated and practised in the United States than in this Country. In fact, the early teams were so impressed by the effectiveness of American methods of handling materials, from the time of their arrival at the factory through all the processes of manufacture to the final despatch of the finished product, that arrangements were made for special teams to be sent to study this subject alone. Two such teams visited America, in 1949 and 1950. Their reports, "Material Handling in Industry" and "Freight Handling", were subsequently published by the Anglo-American Council on Productivity, and have since been the subject of intensive study in this Country.

In these reports it was established that from 15-85 per cent. of the cost of production of an article lies in the cost of handling as opposed to that of valuable productive processes. Thus, in the worst case, where handling amounts to 85 per cent. of the cost, the value of a product can be regarded as only 15 per cent. of its cost of production. The ratio of value to cost is increased as handling costs are decreased. The efficiency of American industry springs largely from its attitude to material handling, resulting in a complete integration of its material handling methods with its methods of production. In British industry, however, although the better factories do not lag far behind the best American ones, the average efficiency is lower. Undoubtedly, this is due partly to lack of capital and to war-time and post-war restrictions on the modernizations of premises and plant, but very largely it comes from an attitude of mind on the part both of employers and employees which inhibits the application of modern methods.

The armed forces of each country naturally follow the national trends of thought, and reflect the patterns of industry. The American forces are clearly conscious of the importance of material handling. The British forces, however, like the wayward British factories, are scarcely yet starting to learn.

The efficiency of American industry lies largely in the way in which handling methods are integrated with the methods of production. Just as architecture cannot be added to a finished building to cover defects in layout or design, so modern material handling methods cannot be added as afterthoughts to processes based on

out of date conceptions. The application of modern handling methods to the conduct of war must be integrated with the methods of war. The principles established in the industrial field may well apply, but practice must follow the practice of war, and not the practice of peace. In the same way, too, it must be realized that, owing to differences in organization, equipment, training, tactical thought, and industrial background, American military practice, however excellent, will not necessarily suit British military requirements.

Shells, bombs, bridges, petrol, food, water, mines, barbed wire, huts, tents, gravel, cement, tanks, guns, oil pipes, engines, spare tyres, and metallic surfaces for airfields are all material, to be moved and moved again and again from the factories where they are produced to the places where they are used. In peace-time, the movement of materials follows well defined channels and is controlled by considerations of economics and efficiency. In war-time, these channels are disrupted, and the controlling considerations change. Military material starts to flow in evergrowing volume to the uttermost ends of the earth, backwards and forwards with the tide of battle. By industrial standards, however, this so called flow of material is chaos twice confounded. Ports are obliterated overnight, beaches become ports, dumps established for an advance are over-run by an unexpected counter-thrust, the relative importance of theatres change from day to day, convoys are diverted from one destination to another, ships are sunk, policies change to meet shifting circumstances, manpower becomes more important than money, and the necessity for victory overrides all considerations of cost.

It is clear that the movement of millions of tons of stores a year in these conditions must impose an immense strain on military resources. This strain is only in part the actual physical effort of handling these stores, and this part is possibly the least important aspect. The greater trouble is a form of military constipation which may best be described as being stores-bound. Stores-binding is a disease which limits the mobility of a force as surely as malaria, beri-beri, or foot rot. If a commander has to keep stores on wheels because he lacks the resources to dump them and later re-load, and thus cannot allow the transport to be used for fetching more stores, he is to that extent stores-bound. If a stores carrying unit takes six hours to load instead of one, it is to that extent stores-bound. If the build-up to a certain level over beaches takes six days instead of three, the force is to that extent stores-bound; but not only the force, the shipping convoy which has taken six days to unload instead of three is also stores-bound. Furthermore, the force which has waited for six days instead of three for its build-up has eaten three days' extra food, and used three days' extra petrol and suffered three days' extra casualties, and allowed the enemy three extra days for his build-up. The last stage of the disease is reached when, however much is crammed down the military pipeline, nothing comes out at the other end. Operations then have to stop until the situation is relieved.

Improvements to the methods of moving and handling military stores are a direct contribution to the tactical and strategic mobility of our forces. Labour saved means extra bayonets; transport saved means extra ships, aircraft, lorries, and railway trucks; time saved is worth extra tanks and guns. In sea and air-borne landings, in advance and withdrawal, and in every aspect of war, resources, particularly time, saved on stores movement and handling can be converted into productive effort, which can be applied more valuably to the discomfort of the enemy.

Material handling therefore warrants proper study; detailed study in appropriate places, and general study by the general run of officers.

It is clear, however, that the handling of military materials is a subject which cuts right across the established Service divisions of responsibility. There are essential relationships between the handling of shells in a battery area by the Gunners, of mines by the Sappers, of mortar bombs by the Infantry, and of bombs by the R.A.F. Boxed ammunition, boxed rations, jerricans, and rolls of barbed wire are not so dissimilar from one another when regarded as material to be handled. Material handling is concerned with the design of ships, aircraft, lorries, and railway trucks, and with the problems of transferring materials from one to the other. It is concerned also with the layout of depots, with ground conditions all over the world, with methods of packaging and supply, with industrial methods, with problems of storage and inspection, with the documentation of stores, and with the protection of stores against pilferage. In the handling of stores there is not only a great community of problems between the Navy, Army, Air Force, and many civilian agencies, but there are countless boundaries where the responsibility for handling the same stores in transit change from one Service or agency to another. It is commonplace for an item of store to be handled 20 or 30 times, by half a dozen different organizations, into and out of four or five different types of transport, on its journey from the factory to the front line.

Military material handling is, at present, studied only on a highly sectionalized basis, with a certain amount of co-ordination through various inter-Service committees and sub-committees. In industry, in contrast, material handling is a prime function of management. It is not dealt with departmentally, or by inter-departmental committees. The material handling for a major industrial organization is co-ordinated and controlled by a special material handling engineer under the direct orders of the management. There is thus one far reaching and properly thought out handling plan for the whole concern. Progressive management, particularly American management, presses continuously for improvements in material handling methods. It is not necessary for a material handling engineer in such a concern to weary himself selling new ideas to his superiors. He is more likely to find himself busy keeping their ideas within the bounds of reason and practicability. It is true that the Services work on a larger scale than any industrial undertaking, but just as it was necessary for the Anglo-American Council on Productivity to establish specialist teams to study material handling in American industry, so it is necessary and possible for the British Services to establish specialist teams to study the problems of moving and handling military stores. Such teams would need to consist of suitable combinations of military officers, civilian experts, motion study representatives, and properly qualified designers. Individual efforts by various agencies supported by inter-Service committees will not yield results comparable with those which would follow from a properly organized approach to the problems involved.

In civilian practice, material handling schemes, in order to achieve high efficiency, tend to be highly specialized. The problem before a civilian planning engineer is usually well defined and localized. Reasonable time is normally available for the development and installation of suitable methods. The military problem is different. The task is immense, ill defined, and far from localized. The conditions in which material has to be moved range from beaches to barrack squares, from jungle to bush, from marsh to meadow, from daylight to dark, from wet to dry, from hot to cold, either under cover or in the open. The planner may well find himself wondering at first whether it is even possible to devise a general scheme to cover so vast a field and such varying circumstances. Military practice must be based on

simple methods and robust equipments. There is no scope for the degree of refinement which yields the ultimate dividends in efficiency in a factory. The efficiency of military methods must lie in their lack of specialization, and in their flexibility of application in varying circumstances all over the world.

One of the main aspects of modern material handling is the application of power to the loading and unloading of vehicles, and to the lifting and lowering of materials into and out of storage areas. This idea is covered by the term mechanical handling. Mechanical handling must be regarded as an essential corollary to mechanical transport, interlinked with it like the links of a chain, leading from the factories where stores are mechanically produced to the firing line, where they are consumed, also largely by machines. It is tempting to argue at this stage that mechanization in the forces has gone far enough already, and that the time has come to call a halt. The answer to this is that handling is as yet a practically untouched field, and that properly planned mechanization in it can yield the rich fruits that follow from the first cultivation of fallow land. The mechanization of stores handling will bring the mechanization of our forces into better balance, and give results of no less consequence than that of the mechanization of transport in the 1914-18 War and of earthmoving in the last one.

Once it is accepted that stores moving is a major military problem which is capable of being investigated as a whole, and which could be minimized by the application of new material handling methods, in particular by the use of power, technical questions arise as to how this might be done. It is the intention here to avoid technical discussion as far as possible, but the reader is referred for greater technical detail and argument to three recently published papers by the same author.¹

In general it can be said, however, that the main problems of developing a proper Service material handling scheme lie in the production of stores handling equipments of mobility comparable with that of Service transport, and in the development of forms of stores loading appropriate to Service conditions and to the characteristics of these stores handling equipments. Important factors follow from the requirements that such a scheme must fit within the pattern of the national economy; that it must allow for the handling of military stores by civilian agencies at some points along the channel of supply; that it must take account of the possibility of the breakdown of mechanical methods on occasion; that it must fit in with, though not necessarily closely follow, American military methods; and that it must be capable of gradual application as resources allow, and of continuous development as equipments improve.

The two main types of mobile stores handling plant in general use in the civilian field are the crane and the forklift truck. The former, in essence, lift loads at the end of a jib arm, and positions them by the movement of the jib, often in conjunction with the movement of the machine. The latter works on a different principle, loads being lifted from underneath by forks fitted to a special mast at the front of the machine. Forklift trucks can be used with special auxiliary fittings such as jib arms, shovels, and booms which permit them to handle a wide range of materials. For those who are unfamiliar with this type of machine, photographic illustrations are available in

¹ *The Mechanical Handling of Military Stores*, R.E. Journal, March, 1952.

The Influence of Mechanical Handling Methods on Engineer Tactics and Technique in the Field, R.E. Journal, September, 1952.

The Mechanical Handling of Military Stores in a Major War, Mechanical Handling, September, 1952.

the more technical articles referred to above. In general, forklift trucks are much simpler machines than cranes. A forklift truck to lift two tons will weigh about three tons: a crane with a moving jib to achieve the same end will weigh two or three times as much. The cost of this type of equipment is at present about £400 a ton; so that the capital cost of a forklift truck will be about £600 per ton capacity, and of a crane £1,200-£1,800 per ton capacity. Operating and maintenance costs will tend to keep the same ratio. A good M.T. driver can be trained to take over a forklift truck in a few hours, whereas it would take him weeks to become competent with a crane.

The most significant fact above is that, although a forklift truck will not do everything that a crane will do, two or three forklift trucks can be produced and operated for the cost of one crane of similar capacity. Until recently forklift trucks were designed for use only on concrete or hard standings. In the last few months, however, civilian prototype machines have been produced in this Country in tracked and wheeled forms of mobility comparable with that of military transport. The economy of forklift trucks, coupled with the appearance of machines with the mobilities of jeeps and tracked tractors, at once puts this type of equipment into the first place as military stores handling plant. The importance of these high mobility forklift trucks is enhanced by the fact that they are based on standard agricultural tractors of which the production lines are well established. It is no longer a case of beating ploughshares into swords, but agricultural tractors into forklift trucks.

Thus the first major problem which requires investigation is the development and use of high mobility forklift trucks with suitable auxiliary fittings for the handling of military stores in field conditions. The uses of this type of machine might well range from the building of military bridges to the supplying of ammunition to guns; from the unloading of landing craft to the collection of stores in a dropping zone; and from the handling of boxed rations to the carrying forward of tools and defence stores for a battalion in the attack. The use of this type of stores handling plant, with its ability to operate over bad ground, would also allow work on the construction of base installations to be very much reduced.

There is no particular difficulty about the development of cranes of varying types. Suitable machines already exist and merely require improvement as time allows. It must also be appreciated that the problems of handling stores in good conditions are being tackled in many ways in the normal course of industrial development. The key to the British military problem lies clearly in the development of low cost machines for use in bad conditions, it being always borne in mind that, in modern war, bad conditions in the form of a muddy field, a bombed port, or a burnt-out depot may suddenly crop up anywhere to form weak links in the chains of communications from the factories to the front.

Although it can be shown in general that mechanical means of handling stores are much more efficient and economical than manual ones, it must be realized that special cases will often arise when manual handling is the correct answer to particular material handling problems. This may well happen in forward areas where there might be available on occasions large numbers of troops with nothing more important to do, or in rearward areas where there may be large quantities of local labour. It must be remembered, however, that the use of combatant troops for such purposes is often at the expense of rest or training, and that local labour, as in Egypt, is liable to be withdrawn suddenly for political ends. The mere ability to take over stores

handling with military mechanical equipment would be a valuable card in dealing with unreliable local labour.

The second main group of problems is that of forms of load. A machine cannot handle stores efficiently unless they are presented to it in a form suitable for handling. As the majority of military stores have, at one stage or another, to be manhandled, they are usually boxed in loads of convenient size for this. Ammunition boxes, compo packs, and jerricans are typical examples. A machine, however, with so much more power than a man, needs to be offered machine- and not man-sized loads. It is normally uneconomic to make a machine to lift light loads one at a time. For a number of reasons, which will not be discussed here, a load of about one or one and a half tons is a good standard machine load for military purposes, though in some cases half a ton might be more convenient. A common civilian method of making up such loads is by the arrangement of the smaller units on large trays called pallets, so designed that the forks of a forklift truck can easily be inserted for lifting the trays. The main snags to this system are the cost and bulk of the pallets, the problem of their return empty, and a certain lack of flexibility owing to the limitations on the range of pallet sizes which can be used. An alternative system is based on the much simpler idea of parcelling small units into bigger ones by means of steel tape. The conception is the same as that of making up normal domestic parcels with string. This idea is used to a limited extent in the civilian world. It has undergone considerable trial in recent years for the handling of engineer stores, and has yielded promising results. It is the subject of a recent military film strip.

The time has now come to bring under better control investigations on forms of load which have been carried out in the last few years on a somewhat unco-ordinated basis, and of which that on parcel loading has probably been the most fruitful. In doing this it must be remembered that form of load is not something of consequence only to rearward stores handling units, but is of vital concern to front line stores consuming units as well. Every arm and Service is affected by this issue, and every arm and Service can profit by the manpower, transport, and time which can be saved by the proper application of new material handling methods.

The third main group of problems lies in the realms of transport design. Thus a modern civilian load carrying lorry is designed for rapid and efficient loading and unloading, particularly by forklift truck. The equivalent military machine, unless it happens to be of civilian type, is not. The point is a technical one and will not be laboured. It must be appreciated, however, that the turn round time of all types of transport is a vital feature for efficient operation. The necessary military practice of handling vehicles in convoys means that all loading and unloading delays in any convoy are cumulative. Each vehicle has to wait while the others load, and thus every vehicle suffers the total delay on all the vehicles. The importance of this group of problems, and of mechanical handling in general, can be gauged from the fact that where it might take six men 40 minutes to load a three-ton lorry by hand, one man with a forklift truck can load a civilian type drop-sided lorry with three tons of parcelled or palletized stores in five minutes. Equivalent results are obtainable for all forms of transport, including ships, aircraft, and railway trucks.

The fourth main group of problems is concerned with military methods. The introduction of new material handling processes immediately opens up new possibilities in the methods of war. It becomes possible, and indeed necessary, to devise new ways of doing old tasks. These ways would be faster and more efficient than the old ones. They would need less men, and, as a result, lead to the reduction of

establishments. Tactical and administrative methods would also be affected, and would have to be kept under review. In short, tactical and administrative study must keep pace with the development of new material handling methods if full advantage is to be taken of them.

There is also a fifth major field in which important developments can follow the adoption of new material handling methods, in particular mechanical handling. This is in the field of design, where at present so many limitations are placed by the overwhelming importance attached to manual handling. Substantial improvements can be made to the design of field structures, huts, and depot and other base installations to take advantage of power handling and other new techniques.

The full development of modern methods in the fields mentioned is an immense task, but it can be tackled with confidence in the knowledge that the whole tide of industrial progress is flowing in the same direction. That it must be tackled is clear from the fact that although manpower, for many reasons, is becoming less and less available to the British forces, the potential tonnages of many stores are tending inexorably to increase. The essential factor for effective progress in the military field is proper control and co-ordination. The complexity of the full task should not be allowed to disguise the fact that valuable progress has already been made in many directions, and that, with proper planning and control, even more valuable results can be obtained as time and resources allow.

SUMMARY

1. In industry, the proper study of material handling methods is regarded as a vital factor in the unending struggle for progress and efficiency.

2. The movement of material is undoubtedly one of the major problems of modern war.

3. In industry, material handling is planned by expert handling engineers under direct managerial control. The more progressive the industry the keener the managerial interest in material handling.

4. In the Services, such development in material handling methods as is taking place is localized in various stores holding corps, or comes under the control of comparatively weak inter-Service committees.

5. The main problems which require investigation include the development of highly mobile forklift trucks, of standard forms of load, of adequately designed transport, of modified tactical and administrative methods, and of new type designs for structures, huts, depots, and other field installations.

6. The adoption of up-to-date material handling methods will counter the ever increasing tendency of our forces to become stores-bound.

7. Valuable results have already been obtained in various fields, but the essential requirement for proper progress is direction and control of the quality and type given to the subject in industry.

THE WAR IN THE PACIFIC, 1945

TOWARDS JAPAN

By LIEUT.-COLONEL H. E. FOOKS, O.B.E.

The last article in this series, which dealt with the liberation of the Philippines, was published in the JOURNAL for August, 1952.—EDITOR.

IN order to see the picture properly, we must return to Europe and look at the situation as it was in February, 1945. On the eastern front, the Russians were advancing so rapidly that the inhabitants of East Prussia could hear their guns. On the West front, Allied cavalry, if not watering their horses in it, were filling their radiators with water drawn from the Rhine. In Italy, Alexander's army had captured the Gothic Line.

In the Pacific, the Allied joint staff had decided that the time had come when the population of the main islands of Japan should learn, by sense of feel, that the days of victory were ended and that their enemy was now at their gate. This did not mean that the staff were thinking in terms of an immediate invasion of their mainland; that had been planned but was not likely to take place for at least six months, according to the schedule which the staff had worked out. What it did mean was intensified bombing of the main Japanese island of Honshu, an island about three times as large as England, Scotland, and Wales put together. It was on this island that the main industrial area was situated.

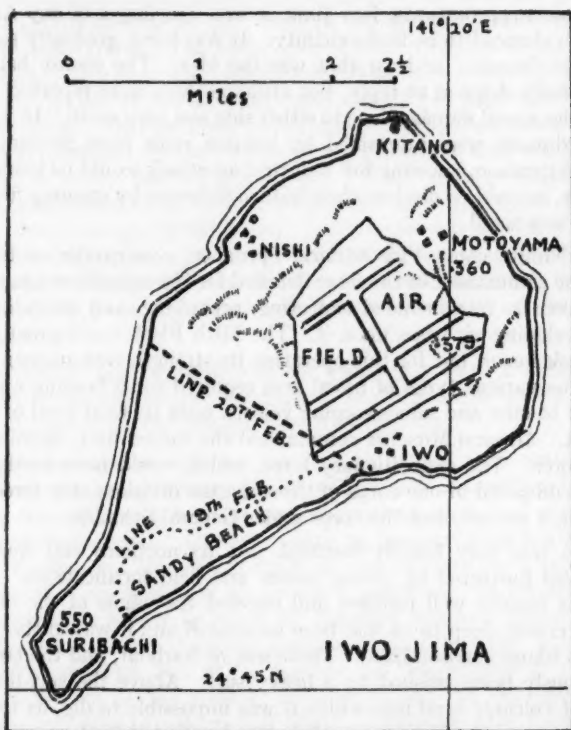
Bombing of Japan had been started in 1942, when the famous 'Shangri-La' (cinema fans will no doubt recognize it) raid took place. It was carried out by naval aircraft flying off a carrier based 140 miles East of Tokyo, which town took a hammering. It was a very costly raid for the raiders, and was not repeated for two years. The damage done to the enemy was not very great, but the fact that a raid had been carried out was of great value in morale to the Allied forces who, at that period of the war, were having rather a rough time of it.

In June, 1944, the Allies began regular raids on the islands of Honshu and Kyushu. These raids were carried out by U.S. bombers (B29s) from the air forces stationed in China, about six hours flying distance away, and also from forces stationed in the Marianas, which were 1,600 miles, or 7½ hours flying distance, off. Halsey's fleet, or at least the carrier portion of it under Admiral Mitscher, also took every opportunity they could to increase the damage caused by the ground-based aircraft.

Raiding from China was not very easy owing to the supply problem. China was cut off from the Allies so far as getting supplies to her by land or sea was concerned; there only remained the air route from what is now Eastern Pakistan, "over the hump" as it was called, and it was very difficult to keep up the supply of heavy munitions by this method. The drawback to bombing from the Marianas was not one of supply, but was equally hard to overcome. If you look at a map of the western Pacific you will see that from Tokyo, in Japan, there is a line of small coral islands extending slightly East of South down to the Marianas. First come the Izu Shichito Group, then the Bonin Group with Chichi Jima, the Volcano Group with Iwo Jima, and finally the Marianas. The last group had been captured by the Allied forces in June, 1944, and now contained several large aerodromes capable of taking the largest bombers in the air force. These had to fly 1,600 miles to reach Tokyo, the return journey taking about 15 hours.

IWO JIMA

The journey under normal conditions was by no means difficult, but there were two snags in it. The two islands half way along the route, Iwo Jima and Chichi Jima, were used by the enemy as fighter bases, and these fighters used to attack the returning bombers when their fuel tanks were low. They were also used as warning stations for the numerous anti-aircraft vessels which were strung out between them and the mainland. Between the fire from these ships and the fighters, the casualties of the bomber squadrons soon began to become very heavy, and something had to be done to put an end to this state of affairs.



Iwo Jima lies 700 miles from the mainland; it is a pear-shaped island five miles long and about two and a half miles broad at its greatest width. It is composed of volcanic rock, and at the 'stalk' of the pear is an extinct volcano, Suribachi, about 550 feet in height which commands the whole island. This volcano in particular, and the whole island in general, had been very heavily fortified by the Japanese, who had also built three airfields on it. It was not a safe place for a damaged bomber, with half empty tanks and 900 miles from its base, to want to approach.

Admiral Nimitz, the C.-in-C. of the Allied forces in the Pacific, decided that Iwo Jima must be captured, and that although this would entail heavy casualties, in the long run these would be more than balanced by the number of lives and machines that would be saved by being able to land on the island. A smaller point

which arose was the fact that the island, in spite of its being hundreds of miles away, was in the municipal area of Tokyo, and its loss to the enemy would rub in the fact that they were not having things all their own way.

Nimitz planned two operations, both on the inner defences of Japan. The first was to be the capture of Iwo Jima, to be carried out entirely by the Navy. The second, to follow immediately after, was in a different direction. It was the capture of Okinawa, an island in the chain of islands which runs South-West from Kyushu, known as the Ryukyo Retto. This was to be a combined naval and military operation and will be described in a later article.

From June, 1944, onwards, Iwo Jima became the target of any Allied naval or air force which chanced to be in its vicinity. It was being gradually softened by air and sea bombardments; at least that was the idea. The enemy batteries on the island occasionally deigned to reply, but although fires were reported to have been caused on it, the actual damage done to either side was very small. In January, 1945, these bombardments were intensified by bomber raids from Saipan, Tinian, and Guam, but the garrison, knowing full well that an attack would be launched on them sooner or later, refused to disclose their hidden defences by opening fire. Again the damage done was small.

Admiral Nimitz chose Vice-Admiral Spruance, commander of the Fifth U.S. Fleet, to be the commander of the force detailed for the operations against Iwo Jima. The orders given to him included capturing, occupying, and defending the island, as well as developing air bases upon it. The Fifth Fleet was normally made up of fast carrier task forces, but for this operation its strength was augmented so that it included all the various types of naval arm required for a landing operation, from bombardment to oiler and minesweeping vessels, until its final total of all types was over 800 craft. Admiral Mitscher commanded the carrier fleet, Admiral Turner the amphibious force. The expeditionary force, which would have to do all the land fighting, was composed of one corps of three marine divisions, the force being under General Smith, a marine, and the corps under General Schmidt.

Iwo Jima was very heavily fortified. At its northern end were three good aerodromes well protected by strong points and field fortifications. The volcano, Suribachi, was equally well fortified and covered the whole of the other defences. In its extinct crater, deep caves had been excavated and it was in these that a large portion of the island garrison lived. There was no harbour, and the landing beaches were continuously being washed by a heavy surf. Above the surf-line the ground was formed of volcanic sand into which it was impossible to dig, as the sides fell in at once. It was considered to be much better fortified than Tarawa, in the Gilbert Islands, had been, and that had been a very tough nut to crack.

The forces on the island consisted of 23,000 men, 17,500 from the Army and 5,500 from the Navy, the whole being under the command of General Kuribayashi, a man who knew a great deal about the power of the army he would have to fight as he had been educated in Canada and had spent some years in the United States. He had been in command of the island ever since the defeat of the Japanese fleet which was trying to relieve the Marianas in June, 1944.

Kuribayashi was no fool, his intelligence was good, and from it he learned of the attack which was shortly to be launched against him. He made all possible preparations to meet the attack, but according to reports collected from his staff after the war, he was not optimistic as to the result, and he thought he would not

be able to hold out for more than a few days at the most. According to Japanese school books, there were no products of any kind on the island, it was "an island of sulphur spring, no water, no swallow, no sparrow." The only supply of fresh water was from barrels into which rain water was led, there were no fresh vegetables, all stores had to be brought by ship from Tokyo to Chichi Jima, and from there were taken by sailing boat or fast launch to the island. These supply boats were severely hunted by Allied forces, from the air and by sea, and, for example, in the month of August, 1944, the enemy owned to a loss of 1,500 men and 50,000 tons of stores lost in transit. This loss of stores, combined with the shortage of water and green food, soon showed its effect on the health of the garrison, and in November, 1944, the daily sick return showed 20 per cent. of the garrison out of action through malnutrition or paratyphus. The G.O.C., according to reports of his staff, became so despondent that he at one time thought seriously of blowing the island up, and it was only when he discovered the very great quantity of explosive that would be needed for his purpose that he gave up the idea. Then, after making a thorough inspection of his command, he decided to dig in, and every man that he had under him was put on to do so. According to his G2, "The defence policy of Kuribayashi was that each man should think his defence position as his graveyard, fight until the last, and give many damages to the enemy." The result was a series of strong points interlocking with each other, with heavy coast defence guns in position and anti-aircraft guns and machine-guns dug in. Every possible landing ground was mined and enfiladed by machine-guns, and as already related the crater of the volcano was turned into a barracks.

Bombing raids or bombardments on the island may have knocked a few holes in the runways of the airfield and, perhaps, stirred the sands on the beaches, but that is about the extent of the damage that could be done.

Admiral Spruance knew well that the task he had to carry out was not going to be an easy one. On an island five miles long by two broad, with only two landing beaches, there was not much hope of manoeuvre, and there was still less hope of avoiding the fire on the beach. Once the softening bombardment began there would be no chance of surprise. The only thing to do was to carry out a straight-forward frontal attack with a probability of 40 per cent. casualties. In Admiral King's own words: "Preparations had to be made for the most intensive ground fighting yet encountered in the Pacific." Landing forces of 60,000 marines, put ashore by a naval force of more than 800 ships manned by approximately 220,000 naval personnel, are evidence of the scale of the attack and the determination of the opposition expected. The attack on Iwo Jima was fixed for 19th February, and for three days before the fleet proceeded to soften the defences as much as possible.

Six days before the attack, on 13th February, a heavy raid was to be made on Tokyo and its environs. The attack, which had long been planned, was to be carried out by Mitscher's carrier-borne aircraft. Its objects were twofold, first to provide cover to the attack on Iwo Jima by destroying aircraft factories, oil tanks, and aircraft; and secondly to make the people of Japan realize that they were no longer safe, even if they did live on the main island. Owing to rain storms and bad visibility, the attack took the enemy by complete surprise. Many important factories, such as the Ota aircraft, the Muse Chine Tama, and the Tachingawa engine factories, were very severely damaged. In Yokohama harbour, one escort carrier, one destroyer, two destroyer escorts, a cargo ship, and several coastal vessels were sunk. The enemy lost 322 machines shot down in the air, and 177 destroyed on the

ground. The raiders lost 49 aircraft, and had no damage done to their carriers. It was a great victory for Mitscher who, after he had landed on his aircraft, proceeded to Iwo Jima to help in the softening process.

On 16th February, two U.S. task forces, the 52nd under Admiral Blandy and the 54th under Admiral Rogers, arrived off the island and began the bombardment. Included amongst the ships carrying this out were carriers, escort carriers, seven battleships, four heavy cruisers, and 17 destroyers. There were also the experimental groups, being tried for the first time. They were the mortar, the gunboat, and the rocket groups; each of these consisting of about a dozen landing craft adapted to the purpose. For three days they flung everything they had at the island and, under cover of this fire, underwater demolition teams and minesweepers carried on with their work. The enemy, not wishing to expose his gun positions until the assault began, hardly deigned to reply, but did shoot up the underwater demolition teams and the gunboats which were covering them from about 2,000 yards range from the shore. Ten out of twelve gunboats and every one of the underwater party's launches were hit, 50 men were killed and nearly 200 wounded.

On 19th February, three divisions of marines stood by to land, they were the 4th on the right, the 5th, as yet unblooded, on the left, and the 3rd in reserve. The landing beach selected was on the South side of the island and ran from a point half a mile North-East of Suribachi to the Motoyama airfield just North of Iwo village. The beach was about 20 yards in width with an almost constant surf about four feet in height rolling in to it. From the beach the ground sloped up to the main plateau rising into a steep cliff, towards the North end, of over 100 feet in height. The beach and the bank were composed of very fine volcanic sand, making the bank hard to climb and impossible to dig into owing to the holes caving in at once.

The tactical plan was simple, there being no room for anything more elaborate than a frontal attack. The 4th Division was to make for the airfield, the 5th was to cut across the centre of the island, then to wheel right to the airfield, leaving one regimental combat team to wheel left and attack the strongly defended Suribachi area. The landing was carried out in waves, the first two at one-minute interval, then a three-minute, and the rest at five-minute intervals. The landing was, of course, covered by the guns of the fleet and all the aircraft that the carriers could fly off.

The first wave got through, as the enemy's fire was light. A minute later, the Japanese opened a very heavy fire and the landing craft which had just disembarked their men were flung in all directions before they could retire. The second wave ran into the mess and they, too, were flung about, but before their men could be disembarked. What with the surf and the fire of the defenders, the beach became a complete holocaust, made worse as successive waves of the attack came in. Tanks which had been landed failed to climb the bank and were left stranded and blazing, and the casualties kept mounting up. Yet some men got through. The 5th Division advanced over the neck of the island, their 28th Regiment wheeled left and went for Suribachi. The remainder, attacking the airfield, were halted dead before the strong lines of the defences. The 4th Division, attacking the southern airfield area, was completely held up by very heavy enfilade machine-gun fire which caught them as they were trying to cross a minefield.

An interesting point in the operation was the very close co-operation between the ground and air forces. No sooner were the former held up by a strong point or a machine-gun with which they were unable to deal, than they would call for an air

strike on it. In a few minutes the strike would come in exactly where it was needed. All communications were by radio, in fact the whole battle was held together by it, and this in spite of the enemy's efforts to jam it by playing Japanese love songs off gramophone records right on the American operating frequencies.

By nightfall, most of the 4th and 5th Divisions, together with their artillery and tanks, were ashore, numbering some 30,000 men. At 1800 hours the corps commander, General Schmidt, gave orders to dig in for the night and renew the advance at dawn. It was easier said than done, for the black volcanic sand flowed like liquid and, unless it was possible to revet with boards or sandbags, the best that could be hoped for was a shallow saucer which gave little cover. It was in these that most of the troops had to spend a sleepless night. Dawn brought a strong enemy counter-attack, but with the help of covering fire from the fleet the attack was driven back with very heavy loss to the enemy.

All through the first night underwater demolition teams and clearing parties had been working to clean up the chaos on the beach. Unfortunately, the weather had deteriorated by dawn and by 0930 hours the surf had thrown back all the debris which had been cleared, making things worse than ever. However, ammunition, stores, and above all water, had to be landed, and the wounded, for whom there was no cover and little that could be done on the island, had to be carried back to the fleet for treatment. Somehow this was done, but the casualties, as can be imagined, were severe.

After the counter-attack on the morning of the 20th had been repulsed, the marines continued their advance towards the airfield area, while the 28th Regiment tackled Suribachi. It was hard work, for not only did they have a very brave and determined enemy to deal with but the Japanese were also very well dug in, and each pillbox or strong point had to be separately eliminated before the advance could continue. By the end of the day casualties were over 3,000. The same evening the Japanese air force mounted a strong *Kamikaze* attack on the fleet. Two machines hit the aircraft carrier *Saratoga* and blew off half her flight deck; the *Bismarck Sea*, an escort carrier, was also hit by two machines just after she had landed on her last aircraft. She blew up and sank.

Fighting continued throughout the 21st and 22nd, but without much progress. On the 23rd, under a very heavy covering fire from the guns of the fleet, Suribachi was stormed, and the Stars and Stripes was hoisted on the summit. The event was photographed in colour and is famous all over the United States. Admiral King, the naval chief of staff, used the picture on the cover of one of his annual official reports. Actually there was so much covering fire that the Japanese put up very little resistance, they were sheltering in the dug-outs inside the crater of the volcano. But as soon as the fleet stopped firing, the enemy came out and the marines had all they could do to hold on to their gains.

General Kuribayashi, in informing Tokyo of the capture of Suribachi, added that he was not afraid of three marine divisions, but he did not like the constant attentions of the fleet and its aircraft. His G2 described it: "As he was very skilful in making compositions [i.e. writing despatches] so his telegrams let all Japanese weep in those days."

On the 24th, General Schmidt was able to establish his headquarters on the island. The reserve division was by now in line between the 4th and 5th, and as the ground in the centre was less broken than it was on the flanks, their arrival in the

line was of great help to the advance. The main enemy stronghold was in the vicinity of No. 2 airfield, and it consisted of heavy concrete blockhouses half underground, sited in depth and linked up by tunnels. The 4th Division, who were on the right, had the toughest job; actually in three weeks they were able to advance only one mile. The line pivoted on their right flank, the left wheeling steadily inwards. There was no rear area, there being no room for it, and all ground was under fire.

The defence tried attacks by day, and when these proved useless they attacked by night, but star shell and searchlights from the fleet made these abortive. They then resorted to their original orders and thought of "their posts as their graveyards and fought to the last." In many cases the only way to eradicate them was to burn them out with flamethrowers. The fighting continued into the month of March, and, on the 2nd, the first airfield to be captured, having been repaired, was able to receive its first flight of B29s. On 13th March, what was left of the Japanese had been compressed into a small defensive area covering Kitano, the most northerly point on the island. Two days later Kuribayashi wired to Tokyo that he was about to make a *banzai* charge and so bid his friends farewell; he was promoted to full general next day.

On 16th March, Schmidt declared that all organized resistance on Iwo Jima had ceased, and the marines, for whom another task was waiting, commenced to return to their ships. Kuribayashi did not make his charge, for, on 21st March, a final message from him stated that he had not had food or water for the last five days, that the enemy were not more than 200 metres away, and that he would fight to the end. On 23rd March came the last message to Tokyo, it read: "Goodbye from Iwo." Peace now descended on the island and lasted for five days. Then a Japanese officer, having collected a force of 200 men out of the remnants, crept out at night into the bivouac area of an American engineer unit engaged on airfield repairs, and managed to hack 283 sleeping sappers to bits before being shot down. What the fate of General Kuribayashi was, whether he committed *hara-kiri* or whether he died fighting, is not known; he certainly was not captured.

The casualties in the taking of Iwo Jima were as follows:—

	United States	Japanese
Killed	5,000	13,200 bodies actually buried after fighting was over.
Wounded	17,000	8,000
Missing or captured ...	—	212

By the end of the war, some five months later, 2,250 Superforts, each carrying 11 men, had used Iwo Jima airfields. If it had been still in the enemy's hands, several of these machines would have been shot down. Although its capture had cost 20,000 casualties, it was considered worth while. From this time onwards bombers were escorted by fighter escorts based on the island.

MOSCOW, 1812 AND 1941: A COMPARISON

By "MUSKETEER"

HISTORY has a tendency to repeat itself, though no one military operation is a blueprint for another. Nevertheless, comparison of the German invasion of Russia in 1941 with Napoleon's campaign in 1812 shows that failure to attain the object in both cases was due to similar reasons or causes, military and political.

Both invading armies crossed approximately the same start line on the same day of the year. The Emperor reached Moscow in mid-September too weak, and stayed too long in the hope of gaining his political object. In 1941, Hitler hoped to solve the time and space problem by a *Blitzkrieg* and succeed where Napoleon's forced marches had failed. His generals were not so sanguine. The Germans, in spite of their mechanization and the marching capacity of their infantry divisions, took much longer than Napoleon to reach the outskirts of Moscow. A comparison of each advance, set out in the appendix to this paper is of considerable interest.

The difference in character, armament, and equipment between the Grand Army and Hitler's masses serves as an illustration of the fact that the fundamental principles of war are constant. It will also be seen that the factors and events which led to the failure of both campaigns are strangely similar. They may be summarized as follows:—

- (a) Both plans aimed at the rapid destruction of the Russian armies, and were agreed as to the vital importance of Moscow.
- (b) Both armies faced time and space problems intensified by the climate and bad communications.
- (c) Serious administrative failures affected each campaign.
- (d) There was in each case a halt and indecision *en route*, at Vitebsk and Smolensk in 1812, and at Smolensk in 1941.
- (e) The Russian command was not brilliant in the early stages of either campaign but made use of space.
- (f) The Grand Army and the Germans had the prestige of recent sweeping victories. But Napoleon underestimated his opponent's determination; the German *Abwehr* underestimated the potential strength of the Russian forces and the quality of their armour.
- (g) Each had to contend with partizans and 'scorched earth,' though the latter was probably less effective in 1941 than in 1812.

Both these campaigns, it is suggested, are of considerable interest at the present time. The following outline of events and decisions, together with some reflections, are designed to amplify the most important similarities summarized above and to serve as an introduction to more detailed study.

NAPOLEON: 1812

At the outset the main Russian armies under Barclay de Tolly (127,000) and Bagration (66,000) formed two groups close to the frontier, the Northern under Barclay being much extended. This was due to Napoleon's initial concentration which threatened both the areas North and South of the Pripet Marshes. The

extreme wings of the Grand Army were covered by a corps on either flank, Austrians on the right, Prussians on the left.

Napoleon advanced rapidly, his main thrust directed on Vilna, his intention being to turn the Russian right flank and manœuvre against their communications with Moscow. Barclay, however, refused battle. Bagraion drew nearer to the main army, but as he was not in touch Napoleon planned to destroy this detachment in detail. Owing to the incapacity of brother Jerome, however, the project failed and the Russians escaped. Still withdrawing, both Russian armies eventually succeeded in uniting about Smolensk.

At the end of July, after another lost opportunity at Vitebsk, the Grand Army had a few days' rest. During this pause Napoleon, showing unusual indecision, argued with his Marshals. Berthier, Duroc, and Daru, the Intendant-General, were against a further advance. They urged that the Russians would not make peace even at Smolensk, Duroc insisting that the enemy were luring the Grand Army to destruction in the interior. Daru emphasized the already disastrous supply situation. However, Napoleon decided to go on; the leading troops reached the outskirts of Smolensk on 16th August and, after a sharp action, entered the burning ruins of the town on 18th August. Again an outflanking movement failed to destroy the Russian forces or to cut them off from Moscow. Several days later, when it appeared they were about to make a stand astride the Moscow road, the main body of the Grand Army advanced again, but the Russians avoided battle and retreated. They had, by a system of evasion, succeeded in prolonging the period of resistance, during which the invader's preponderance in strength was reduced and his line of communication, already threatened on both flanks, was stretched. The Russian armies had suffered losses but were still intact and likely to be reinforced.

The Emperor, who had crossed the Niemen with 360,000 men, began operations against Smolensk with 185,000. Battle casualties and detachments were not the sole reason for this; much wastage accrued from sickness, straggling, and desertion. Since early July the troops had suffered from the intense heat, shortage of water, and choking dust. But that was not all. The rudimentary medical service lacked drugs for the sick and even dressings for the wounded. The supply service soon broke down, the wagons could not keep up with the Army. Once the rations carried on man and horse at the outset were exhausted, everything had to be obtained by foraging or marauding. Posts and hospitals on the line of communication were expected to subsist in the same way. Not only was this bad for discipline, but the foraging parties and marauders fell victims to the partizans. The cavalry was soon reduced in numbers and efficiency as, owing to the lack of proper, or any, forage, thousands of horses died before reaching Smolensk and others became so weak as to be almost useless.

SMOLENSK TO MOSCOW

After the battle for Smolensk Napoleon the general must have had grave doubts as to the possible success of the enterprise, but Napoleon the statesman had still to secure a settlement. He sent a letter to the Czar offering to treat for peace. There was no reply. Two courses were now open to Napoleon, either to renounce the task as impossible or to go on in the hope that by the occupation of Moscow the political object could still be attained. The Marshals were disillusioned and uneasy; even the dashing Murat begged the Emperor not to go on. Napoleon the statesman would not stop, so the hungry army, reduced to 156,000, struggled on from a burnt-out, pillaged wilderness through an avenue of burning villages and farms.

Kutuzov, who became C-in-C. at the end of August, continued the withdrawal. Reinforcements brought his force up to a strength of 120,000, and he occupied the previously selected position at Borodino with the intention of making a stand in defence of Moscow. Napoleon gained contact with the position on 5th September, after a halt to close up. But he was only able to concentrate 134,000 men for the battle.

Borodino, 6th-7th September, was not one of Napoleon's masterpieces. His purely frontal attack cost 28,000 casualties, though the artillery fired 100,000 rounds, and the result was not decisive. Breaking his own precept, Napoleon had retained his Guard in reserve. This picked force of 19,000 men, thrown at the exhausted Russians on the late afternoon of 7th September, might, indeed, have turned the battle into a smashing victory and peace at Moscow.

On 8th September, the Russians, whose losses had amounted to 40,000, commenced to withdraw from the battlefield, moved slowly through Moscow, and then *South* towards Kaluga. The Grand Army followed up, entering Moscow on 14th September. Two days later the city began to burn.

AUTUMN IN MOSCOW

Napoleon was in a quandary. He had reached Moscow, but was too weak to keep himself there and the Russians made no overtures for peace. On 20th September, he wrote again to the Czar proposing negotiations and, on 5th October, got into touch with Kutuzov. There was no response, which is not surprising. The Grand Army was deployed in the area Riga-Moscow-Brest Litovsk; the line of communication from Moscow to the Niemen measured 550 miles. The Emperor had 95,000 men in Moscow, 5,000 at Mozhaishk, and 37,000 at Smolensk. On his right wing were 34,000 (Austrians) at Brest Litovsk; on the left from Riga to Dunaberg were 25,000 (Germans) and 17,000 at Polotsk. Both wings were threatened by Russian forces superior in numbers to these detachments. Napoleon considered various courses of action and, about 9th October, came to the conclusion that retreat *via* Smolensk offered the only possible escape unless the Czar gave in.

In the meantime Kutuzov, reinforced to a strength of 110,000, concentrated some 40 miles *South-West* of Moscow, watched by Murat. Every single day that Napoleon remained in Moscow could only be of advantage to the Russians, who were careful not to give the impression that they had no intention of negotiating. This deception, however, could not be maintained indefinitely, so on 18th October the Russians attacked Murat's detachment. Next day the retreat from Moscow commenced; the first frost came on 27th October, and a week later the snow began to fall. Kutuzov's pursuit was parallel, not direct, until just before the Battle of Beresina.

HITLER: 1941

The outline plan for the invasion of Russia, contained in O.K.W. Directive No. 21, stated the object as: "to defeat Soviet Russia in one rapid campaign." The intention given was: "The mass of the army stationed in Western Russia is to be destroyed in bold operations involving deep penetrations by armoured spearheads, and the withdrawal of elements capable of combat into the extensive Russian land spaces is to be prevented."

Three Army Groups, "South," "Centre"—the strongest—and "North," were to advance from Poland and East Prussia. The first, on the main axis Lublin-Kiev,

would advance South of the Pripet Marshes and after deep penetration roll up the enemy forces along the River Dnieper. The main thrust would be made North of the Marshes by the Centre and North Army Groups, which had the task of destroying the enemy forces in White Russia, and taking Leningrad, after clearing the Baltic States. The Directive continued: "Once the battles South or North of the Pripet Marshes have been fought, the pursuit is to be undertaken with the following objectives:—

In the South, the rapid occupation of the economically important Donetz Basin.

In the North, the speedy capture of Moscow.

"The capture of this city would be a decisive victory both from the political and from the economic point of view; it would involve, moreover, the neutralization of the most vital Russian rail centre."

Success, as in 1812, depended on a quick advance to be followed in this case by vast encirclements *West* of the Dnieper. Hitler believed the campaign would be over in ten weeks, when all the opposing Russian forces would have been destroyed.

At first all went well. Von Bock's Centre Group, its right moving through Brest Litovsk and left *via* Vilna, converged on Minsk capturing some 300,000 prisoners. After turning the mythical Stalin Line on the Beresina, von Bock's advanced guards reached the outskirts of Smolensk on 16th July. A gigantic tank battle followed in which the German losses were unexpectedly heavy. It was not until 7th August that the place was captured, after which von Bock was forced to pause and refit.

DELAY AT SMOLENSK

Hitler began to interfere even before the fall of Smolensk. His refusal to give priority to von Bock's Group had prevented a double envelopment as at Minsk. This dispersion of forces disturbed the Army Command. But, in the meantime, the reinforced Northern Group pushed on and, by 20th August, captured Pskov and Narva.

On 17th August, von Brauchitsch again urged Hitler to sanction a resumption of the advance on Moscow with maximum strength before the Summer ended. The Fuhrer had other ideas, and as a result von Bock had to detach two armies, including Guderian's panzers, to co-operate with South Group in a pincer movement on Kiev. This operation, in which the Germans claimed an astronomical number of prisoners, was not completed until 20th September. In spite of the lateness of the season Hitler then ordered the resumption of the drive on Moscow and the return of the formations loaned by von Bock. But, at the same time, he insisted on the continuation of both the northern and southern offensives.

Von Bock's offensive with 48 infantry and 12 armoured divisions started on 2nd October on a wide front. Mozhaisk was taken on 15th October, but there the advance faltered. With the Autumn rains, mud became a limiting factor. The supply lorries, on which so much depended since the converted railways had not caught up, were bogged in the mud of the Russian roads. Had they been tracked vehicles the story might have been very different. The troops were exhausted, rations were short, and replacements of all kinds did not arrive. Moreover, the Army had not been provided with winter clothing, though both the *Waffen S.S.* and the *Luftwaffe* had plenty. Also, Guderian's panzers, after the long advance and diversion to the South, were in bad shape.

WINTER OUTSIDE MOSCOW

Hard frost came early in November, then the snow. Once it became apparent that the onset of Winter prevented a quick decisive victory, von Brauchitsch advised withdrawal to a defensive line where the troops could be properly sheltered for the winter. Both the Commanders of Groups North and South urged withdrawal back to Poland. Von Bock, however, feared that a winter retreat would involve disaster. Hitler decreed that the offensive would be maintained.

The plight of the Germans late in November is described by Guderian as follows: "Only he who saw the endless expanse of Russian snow during the Winter of our misery and felt the icy wind that blew across it, burying in snow every object in its path; who drove for hour after hour through that no-man's-land only at last to find too their shelter with insufficiently clothed, half-starved men; and who also saw by contrast, the well-fed, warmly-clad and fresh Siberians, fully equipped for Winter fighting; only a man who knew all that can truly judge the events which now occurred."

In such conditions the advance was resumed, only to peter out on 5th December some 30 miles from Moscow. On 6th December, a Russian counter-offensive in unexpected strength opened, and the Germans were forced to withdraw to their advanced bases, converted into 'hedgehogs.' The continuous defensive fighting during the Winter caused heavy loss in men and material. Equipment could be repaired or replaced but not the experienced soldiers, so the cutting edge of the German Army became blunted, and its temper was never the same again. The C.-in-C., von Brauchitsch, the three Army Group Commanders, and Guderian were removed; the new War Lord took the reins into his own hands.

REFLECTIONS

The combination of space, climate, and bad communications was undoubtedly a contributory factor in the failure of both campaigns, particularly in its effect on supply and transport. There were, however, violations of the principles of war, failures in execution, and lack of foresight in each case.

The policy of using space by retreat into the interior was not deliberately adopted by the Russians in either campaign; they were forced into it. Nevertheless, an invader faced with such evasion, and unable to gain a decision, suffers from the "diminishing power of the offensive" as he proceeds. Clausewitz, referring to Russia, remarks: "it is no country which can be regularly conquered. Such a country can only be subdued by its own weakness and by the effects of internal dissension. In order to strike these vulnerable points in its political existence, the country must be agitated at the very centre." The experience of the 1914-1918 War shows this view to be correct, and there is no doubt that the German General Staff was aware of it.

Napoleon's original concentration was brilliant. During the advance, however, failures in execution occurred, it soon became apparent that the known difficulties had been underestimated and that living on the country would not prove a substitute for a proper supply system. Napoleon was unable to control so large an army in detail and his subordinates failed when not under his close supervision. Thus, more than once manoeuvres which might have resulted in decisive victory failed. Added to this, he had lost his former energy and had become much concerned with the detailed administration of his Empire. With affairs in Spain going from bad to worse, he was not in a position to sustain a long defensive war, especially as

time was on the side of the Russians. So, in spite of protests, he went on from Smolensk and gambled on the fall of Moscow bringing peace. It did not—the Russian Army was still in being.

The German campaign of 1941 was an amazing performance. After the first month, however, the effect of space and bad communications began to make itself felt and the armoured spearheads were sometimes delayed until the marching divisions came up to 'close the bag.' Then followed troubles over supply and transport and the shocking mistake over clothing.

The delay at Smolensk was fatal. Hitler acted contrary to the advice of his C-in-C., and in so doing flouted the principles of concentration and maintenance of the objective. The fact that Moscow was the political centre, an important industrial area and, above all, the vital Russian rail centre, made it the main objective, to the early capture of which everything else should have been subordinated. Even had the Russians escaped decisive defeat in its defence, the neutralization of the rail centre would have so affected the flexibility of their forces that such operations as the Stalingrad counter-offensive would not have been feasible.

Neither Napoleon nor Hitler achieved their political aims because neither succeeded in destroying the Russian forces and their will to resist. These results cannot be attributed entirely to Russian space and climate, though these were important factors, as were the determination and fighting qualities of the Russians themselves. The mistakes made by the invaders, similar in many respects, were surely the main reason for their failure.

Napoleon the emperor prevailed over Napoleon the general. Hitler the politician overruled his C-in-C. The one lost an army, mostly composed of allies, the other, having destroyed the power and prestige of the General Staff, eventually drove the whole *Wehrmacht* to complete destruction.

APPENDIX

TIMETABLE

	<i>Napoleon</i>	<i>Hitler</i>
"D" Day ...	22nd June	22nd June
Start Line ...	River Niemen	Brest Litovsk-Tilsit
Minsk occupied ...	8th July	10th July
Smolensk reached ...	16th August	16th July
Smolensk cleared ...	18th August	7th August
Move on to Moscow ...	25th August	2nd October
Check outside Moscow ...	2nd-8th September (includes battle of Borodino, near Mozhaisk)	15th October, Mozhaisk taken. Pause of three weeks. Final advance stopped at Klin, 30 miles West of Moscow, on 5th December.
Moscow reached ...	14th September	—
Retreat started ...	19th October	Russian counter-offensive, 6th December, forced withdrawal.

RUSSIA'S WESTERN ARMOURY

By LIEUT.-COLONEL J. BAKER WHITE, T.D., M.P.

HAD any responsible observer of European affairs and Soviet strategy said two years ago that the Soviet leaders would move an important part of their armament production westwards of the old Russian border he would have been written off as a responsible observer. Yet that is what is happening to-day—and there is plenty of hard evidence to prove it. Within the past six months Czechoslovakia has been stepped up to become an important and ever-increasing producer of arms and equipment for the satellite armies, and for the Red Army itself.

The Czechoslovak armament industry is based, as it was in pre-war days, on the Skoda Works at Plzen and the plants in and around Brno, which produce, among other things, the world-famous Bren light machine gun. The armour plate and gun departments of the Skoda Works are employing as many workers as at the peak of pre-war production, and are working continuous day and night shifts. The total employees of Skoda number 35,000. Production includes two armoured vehicles, the Tatra III and the Skoda 706, and over 2,000 were dispatched for delivery to the Chinese Red Army in the second half of 1951.

The Plzen Skoda Works has been renamed the "V-I-Lenin plant," and is in the habit of working special 'Stalin' shifts to finish urgent orders. In recent months these have included a large turbine, 31 engine chassis, a number of diesel-electric locomotives for the U.S.S.R., and 51 engine chassis for the 'Gottwald' plant in Ostrava.

The Skoda plants at Plzen, the 'Stalin' plant at Most, and the Armatvrka plant at Usti are, for purposes of war production, now run as one group under Soviet supervision. A special branch of the S.N.B. (Political Police) is responsible for their security. Steel from the Kladno plant, West of Prague, supplies armament factories at Strakonice, Brno, and the C.K.D.—Stalingrad Works where a new electric arc furnace, the first of its kind produced in Czechoslovakia, was put into operation on 10th April. Kladno, which is under the direct supervision of the Ministry of National Defence, also sends armour plate to the Soviet Union.

The Vsetin plant, near Brno, is concentrating on the manufacture of the Bren Z.B. 26 light machine gun. These are being used to re-equip the Czech, Hungarian, and Chinese armies. Among the arms of Czech manufacture captured by the United Nations in Korea have been three types of 7.92 mm. machine guns, two types of the 7.92 rifle, machine carbines, and 7.62 mm. pistols. None of those captured so far is new, being of 1939-45 manufacture, and the impression is that the new Czech equipment is being used to re-equip the Chinese armies in China, while the older and more expendable equipment is being used on the battle front. Czech equipment of post-war types has also been captured in Indo-China.

The Zbrojovka plant at Brno is regarded as of particular importance as it is producing machine guns and spare parts for Soviet tanks. There are sound indications that two Soviet para-military vehicles are to be manufactured in Czechoslovakia. One is the ZIS-151 truck, which has a two and a half tons load capacity, can draw a three and a half tons capacity trailer, and has a good cross-country performance. The other is the GAZ-63 truck, which is a double-axled vehicle that can be adapted as a troop-carrier. It has a good performance in wooded country.

The former Bata shoe factory at Zlin, now known as Gottwaldov, has a daily

output of 100,000 pairs of boots and shoes, as compared with 120,000 pairs pre-war. About two-fifths of its output is the Russian type of army knee-boot, with which the Czech Army has been re-equipped, and these boots are now consigned direct to Russia. Factory 09 and Factory Masna 11, both in Prague, are engaged upon canning Hungarian meat for the Soviet armed forces, as is the Jednota/Unity Co-operative Meat Packing Plant at Nymburk, in Bohemia. Until the Soviet contracts began the workers in these plants received a quantity of meat products as payment in kind. This has now been stopped.

It is in the spheres of aviation and research that very significant developments are taking place. In May, 1951, the Red Aviation Intelligence realized that an almost intact MIG-15 jet fighter was in the hands of the United Nations experts in Korea, and decided that production could be decentralized to the satellites without risk to security. Shortly afterwards the Czechs were given blueprints, specimen planes, and orders to tool-up for mass production. A technical mission of the Red Air Force moved in to the Hotel Splendid in Prague.

The necessary research and preparations for mass production were carried out in the 'Aero' factory, which was delayed by the differences in Czech and Soviet assembly and production methods, and the higher skill of the Czech artisans. The 'Aero' factory is now producing the aircraft and the 'Walter' factory at Janovice the engines. Components for the YAK-15 and MIG-25 are now being produced in Czech plants, and between Benesov and Tabor in Southern Bohemia new airfields are being built for testing the newest types of jet aircraft. Another product of the Czech aviation industry, now being supplied to the Polish Air Force, is a 4-seater troop co-operation aircraft capable of a speed of about 160 m.p.h. and of landing on small emergency air-strips.

An atomic research station has been established at Stakcin in Eastern Slovakia, and important work on metals is being carried out in the laboratories of the Czech armoured corps at Podborany in Western Bohemia. Tests are taking place on new armoured plates of a steel-titanium composition. New uranium mines have been opened up near Chomutov. They are under the supervision of Soviet technicians and the ore is sent direct to Russia. Czech scientists are undergoing courses of 'ideological' training, on the slogan "through Marx-Leninist ideology and party consciousness against cosmopolitanism and objectivism," to fit them for working under the orders of Soviet experts. Some 900 of them were put through such a course which finished in Brno on 1st March. It was organized by the Military Technical Academy. Among the speakers at it were the Minister of Information, Vaclav Kopecky, and the Deputy Minister of Defence, General Oenek Hruska, whose subject was "The Supremacy of Soviet Military Science over Bourgeois Doctrines."

Recently, the collection of scrap metal was transferred from a special civilian department to the Army, and a greatly increased in-flow of material is said to have resulted.

There are minor indications of parallel development of armament production in other of the western satellites. A new motor car plant has been built in Poland to produce Soviet-type vehicles. A large new foundry near Warsaw, linked to the Warszawa iron and steel works, is under construction. It is under the supervision of Soviet experts, and the U.S.S.R. is to provide the basic equipment for the foundry. In Hungary, five armament plants in and near Budapest have been placed under special supervision for failing to fulfil their programmes. It is, however, Czechoslovakia that is being built up, at high speed, as the Kremlin's western armoury.



Several and conflicting explanations could be given for this remarkable concentration of military production in a western satellite and some of it near its western frontiers. As the whole tendency of Soviet strategic planning from 1945 to the end of 1950 was to concentrate such production as far to the East as possible, in the Urals and beyond, the reversal of policy must have had some very pressing reason behind it. The most probable explanation is that the Kremlin has discovered that it was beyond the capacity of the home armament industry, facing a serious shortage of machine tools and skilled operatives, to raise its output to a level sufficient to meet the plan to re-equip the satellite, and especially the Chinese, armies and air forces.

There are as yet no indications that Czechoslovakia is to produce any large quantities of heavy artillery, tank chassis, or tank engines. The accent is on the production of light weapons, spare parts, tools, precision instruments, and aircraft, those particularly suited to the layout of Czech industry and the skill of Czech workers. They are the best engineers and technicians among the satellite peoples, with long experience in precision work and small arms manufacture.

To create a Red armoury in Czechoslovakia is a calculated risk, and no doubt the Kremlin is prepared to take that risk to get its long-term arms plan around an awkward corner. It must not be assumed necessarily that even the Gottwald Government, and much less the Czech people, welcome this development, placing additional burdens on an already over-strained economy. The new Czech-Soviet trade pact was signed in Moscow on 5th April. The Czech Minister of Foreign Trade, Antonin Gregor, had been there since December, 1951, engaged in hard and unpleasant bargaining. Under the pact, Czechoslovakia receives from Russia increased quantities of grain and flour, iron ore, manganese, pig-iron, aluminium, lead, synthetic rubber, chemicals, cotton, and copper, but she has got to raise by at least a quarter her deliveries of finished materials to Russia. In return for additional foodstuffs, Prague has got to agree to transfer workers from the farms to the factories and to accept increased direct control of industry by Soviet technicians and engineers. On his return to Prague on 8th April, the Minister of Foreign Trade made no secret of the weight of the new burden. He said :—

“ When we realize the volume of the mutual exchange of goods, the millions of tons which we received even last year from the U.S.S.R., and when the problem of transport alone by rail and water becomes a great task for us, we shall understand not only the amount of help we thus receive, but also the tasks that await us in 1952.”

That was probably about as far as Dr. Gregor could go without finding himself accused of disloyalty to his Soviet masters.

REGULAR RECRUITING

By "NOLL"

THE Army to-day is in great need of Regular soldiers and the War Office have issued two pamphlets which underline this need. The first is a guide to the Regular officer and warrant officer, explaining their responsibilities, within their own units, for improving the Regular content of the Army. The other is for the man himself, and explains in simple language what the Army has to offer him and where an army career would lead him.

THE PROBLEM

Obviously the more Regulars that join the Army the better. There is, however, a minimum of Regulars below which the Army should not fall if it is to be properly balanced. That minimum is a proportion of one Regular to every National Service man. We need, therefore, about 200,000 Regulars and we are considerably below this figure.

The National Service element in any good unit is a joy to see. Keen young men, interested in their work and up to the best traditions of their forebears. But this element is a 'floating' one. An infantry regiment in the Far East, for example, does not keep them for very long. For why? The National Service man, on enlistment, has to do ten weeks basic training at his Depot. Before he leaves England he has some embarkation leave. He has then to wait a short while for his transport to take him to, say, Hong Kong. On arrival at his unit, he has to do a further six weeks training. When you tot all this time up you will find that he is seldom fully trained and available to his unit until about six or seven months after enlistment. At the end of his service he has got to be sent home by transport in sufficient time to be discharged to his part time service.

When all these times have been put together it will be seen that a National Service man only spends about 12 to 15 months with his unit in the Far East. That is why there must be that hard core of Regular soldiers to ensure continuity and hold the regiment, or unit of a corps, together.

To-day we are short of Regulars and there are a number of reasons why. The first is full employment. A man can earn a good wage in civilian life for a 44 hour week, with extra money for overtime. Why should he join the Service? Another is instability. Before the war, about half of the British Army was stationed at home in garrison towns like Aldershot, Tidworth, and Colchester. They had a great deal to make their lives contented; games, comradeship, decent amenities, regular periods of leave, and so on. More than that, they had two priceless boons. First, they knew well ahead what was going to happen to them and could order their life accordingly. Secondly, many of the civilians who lived in these garrisons depended on the soldier for their livelihood and so they were friendly. The soldier was at home and liked. These were two great 'hidden' assets of the pre-war Army. Even those men who were abroad had, compared to many overseas stations to-day, a comfortable time.

All this, or most of it, has gone. The vast proportion of the Army is abroad. The soldier is always on the move, very often to indifferent surroundings.

The basic cause of this instability is beyond our control. It is due to the disturbed and unsettled world in which we live. We are fighting what is sometimes

called "the Cold War" and it is not very cold at that, except perhaps, the winter in Korea!

Until there is a fundamental change in world conditions—and no one would say this will happen soon—this lack of stability will remain. Somehow or other this disadvantage must be overcome by employing temporary expedients, as for example, by keeping men in the same unit and getting them home together. The War Office are doing this whenever they can.

It follows that we are not likely to get many Regular soldiers by direct enlistment from the mature age groups. There is, however, a real source of supply from within the Army itself, namely the National Service man. This calls for a complete change in the mental outlook of Regulars. The Regular officer and warrant officer has never looked upon himself as a potential recruiter or his men as potential recruits. He has not had to, because his men have in fact, been Regulars. Once this need is realized, the change can be, and is being, quickly made. How can we increase the Regular content of the Army by making the National Service man want to stay on? First, there must be something for him to stay on for—inducements. Secondly, these must be put across to him so that he himself wants to remain—methods.

The former is mainly a matter of policy on which the present financial stringency may exert a very restraining influence. The latter goes right down to the Regular soldier himself who is, in the end, the best recruiter. Let us consider what we have to offer and how we can do it.

INDUCEMENTS

The first thing the potential Regular wants to know, before he takes the plunge, is what are his immediate prospects? Terms of service, pay, dress and amenities generally. These will influence him a lot. Some, though not all, will think seriously about their future. Later, the others will think about it too. Promotion, pensions, return to civilian life, these things can all be inducements.

Finally there is the Press, with its tremendous impact on everyone, which has a great influence in this respect.

Terms of Service. Before the last war 12 seemed to be the magic figure in the recruiting world. A man could join for seven and five, three and nine, nine and three, and so on, but the total came to 12. After completing 12 years service he could take on for a further nine to complete 21.

To-day, shorter initial engagements and more flexibility in the terms of service are necessary. The new contract of service, recently announced, under which a man can give notice to leave the Army at the end of every third year, but can go on to complete 22 years if he so wishes, is a tremendous step and should encourage men to join, who have felt that, to begin with, seven years was a bit too much. This 'contracting out' brings the soldier more into line with his civilian counterpart, who has freedom to change his job if he so wishes.

Pay. Closely bound up with terms of service is the question of the man's pay. Some people will argue that it does not influence him much. This is nonsense. It has a great bearing on the matter and is important whatever may be said to the contrary.

When discussing pay, one comes straight to the argument whether the National Service man should have the same pay as the Regular. It is an argument to which

we must face up. It is heightened by the fact that in a platoon, two men may be fighting for the same cause, on two different rates of pay. It is a vexed question.

The answer seems to be that, if one is to attract the Regular, he must be, and remain, better off than the National Service man. This is so in most, if not all, foreign armies which have conscripts. In war, if it is considered that there should be no difference in pay, then the difference should be made up by increased pensions or gratuities. The fact remains that, in emergency, the Regular soldier with his greater experience, normally has to shoulder greater responsibility and should be given his dues.

When confronted with the bare statement that he gets 49s. a week, the private soldier almost invariably compares it, unfavourably, with the 105s. minimum of his civilian friend next door. He forgets that he gets free board and lodging, clothing, national insurance, free leave travel, and 30 days leave a year with pay and ration allowances. These are great assets and need to be put over properly.

There was once a suggestion in, I believe, the U.S.A., that to bring this home to the man, he should be given a greater sum over the pay table and then pay back what it costs to keep him. One can imagine the 'moaning' that might take place if a soldier was paid out 110s. a week and then had to pay 61s. back. It would, in any case, be impracticable administratively. Nevertheless, as a debating point in a discussion group, it underlines the 'hidden' assets in a soldier's pay.

Dress. A soldier gets a comprehensive range of clothing on enlistment. But he gets no proper walking out dress. This is a real and deep grievance among Regular soldiers and a deterrent to recruiting. The Regular soldier resents walking out in battledress, a kit similar to that in which he has worked all day. It is not his idea of smartness and he looks with envy on his friends in the Royal Navy, Royal Marines, or Royal Air Force. He is told it is too expensive to fit out the Army. He is told the material is needed for export. It does not matter what he is told, he thinks the other two Services are getting preferential treatment. He feels, and is, the poor relation.

If we need Regular soldiers, we must give them a proper walking out dress. In time, so it is said, every man will wear No. 1 dress. Time is the operative word. He has been told this too long. What he needs now is some action. A few men in special units are allowed to wear the old pre-war khaki walking out dress. This was smart and the men liked it. An alternative to No. 1 dress might well be the old khaki walking out dress with the blue patrol cap. The moral effect of putting Regulars into something smart would be very great. If National Service men saw the permanent staff of their basic training unit going out so dressed, it would be an incentive to recruiting.

Amenities. Some people say that one thing which puts men off 'taking on' is the poor standard of their surroundings. Many barracks and camps are old and uncomfortable. This is a problem that cannot be solved quickly. It is a matter of £ s. d., and every pound spent on maintenance means a pound less spent on a tank or a gun.

Much can be done by self help and, paradoxically enough, in a good unit where the men are happy and have a high morale, they often prefer to live in their indifferent surroundings than go elsewhere. One thing however, need never, and must never be indifferent, and that is the N.A.A.F.I.

Promotion. Having seen that his immediate prospects are good, the potential Regular who thinks more deeply, starts to wonder about his career as a whole. The prospect of becoming an effective non-commissioned officer fairly quickly is an attractive one to a National Service man and may induce him to become a Regular provided he knows that he is not likely to revert if he moves elsewhere.

Where there are vacancies, young men should be given their chance quickly. Lance rank is for just that purpose. The man knows that if he does not make the grade he can be reverted without fuss. His commanding officer has no fear that he will be saddled with an inefficient non-commissioned officer if the man finds the work beyond him. The first step on the ladder is the hardest and should be taken as quickly as possible. Once a soldier is made a non-commissioned officer everything possible must be done to raise his status, as a leader, in the eyes of the men. This gives him the confidence necessary to develop his leadership and, in turn, aids recruiting since the National Service man sees himself, one day, in the same position.

The Press. The Army has had, until recently at any rate, an indifferent press. Someone remarked the other day that the Army is only 'news' when it is 'bad news.' It has also been said that "the Army suffers from the curse of Cromwell." There is an element of truth in both these remarks. It is a pity, and Army publicity does need revitalizing. Prevention of distorted information is better than the cure of rebutting it, because however exaggerated a newspaper report may be, the mud sticks. We must create good publicity and this needs a militant as opposed to a defensive attitude towards publicizing the Army and showing it off to the Country. This attitude of mind is all important. Even to-day some recruiting posters seem to apologize for suggesting that one should join the Army, rather than the other way about.

Certain pundits say that the old patriotic approach is outmoded and that security is what the young man wants. I wonder whether this is really so. I rather doubt it. The young man of to-day is every bit as good as his elder brother and father were before him.

Army publicity has been placed in the hands of a civilian expert and, with luck, will bring results. But it will need the support of all right-minded people to back the Army as it should.

METHODS

Some of the inducements which have been discussed are matters of policy beyond the control of units or even formations. In the long run, however, although the War Office and formations can help, the methods by which the National Service man can be encouraged to become a Regular soldier must be applied by his unit. It is there that the officers and senior non-commissioned officers, who need the Regulars, have the Regular potential under their command. They have a most responsible task because it is fatal to their cause for them to employ pressure to get Regulars. We are one of the few still free countries and, if a man thinks he is being 'old soldiered,' he can become as stubborn as a mule, and more so. The National Service man must want to become a Regular soldier. If he feels that way—then all is well.

When is the best time to explain to the soldier the advantages of Regular service? Some say that the last few months of his service are the best. Others say "Catch 'em young." Both arguments are fallacious. There is no special period when a man is more susceptible than others. It is a continuous process throughout his service, during which time he sees for himself. The only difference is in method.

When a recruit arrives at a depot or training unit, he is uncertain of himself, more than a little frightened, very suspicious and impressionable. It is vital that during this initial training period he realizes that life in the Army is a good one and that his fears of bullying and 'what have you' are groundless. This needs excellent man management and minute attention to detail by the permanent staff of the unit. It does not mean mollicoddling, nor does it mean inflexible discipline. A man, provided he knows what he is doing and why, will react to intelligent discipline. But no one likes being mucked about for no purpose.

The first essential, then, is a smart and contented Regular staff who like their job and know what it is. Officers and men must be hand picked and the best that can be produced. They themselves must be properly looked after.

Once a man gets confident and becomes interested, he is halfway to becoming a Regular. He should be shown the history and traditions of his arm of the Service. He should be identified with it at work and at play. He should see his Regular comrades happy and contented. He should be shown the stake that a man has in an army career through the eye by the 'Information Room' and other techniques. Once he has joined his unit, the same process of identification continues. But when and wherever the approach is made, the emphasis must be on the honour of belonging to a select group rather than being begged to join to increase numbers!

CONCLUSION

The Army offers a young man a complete career with security at the end of it. If this can be got across to the National Service man in a friendly and common-sense way, we will get the Regulars we need to balance the post-war Army. Until recently, the Army has been hiding its light under a bushel. Now, with the reactivation of infantry depots and the focus which is being directed on to Service life, recruiting is improving. But more men are wanted and the need for Regulars is still a real problem.

To-day, every Regular officer, warrant officer, non-commissioned officer, and man, in whatever arm of the Service he may be, is a recruiter for the Regular Army. For this reason he must be smart and happy and know his job. Then, by his enthusiasm and example, he will inspire the National Service man to stay with his Regular comrades.

There is no hard and fast method for Regular recruiting. No two units have the same problems or employ the same techniques. All the problems I have mentioned have a bearing on it, though some more than others. But one thing is certain. The secret of success lies with the Regular Army.

GEORGE THOMAS, THE SAILOR RAJAH

By BRIGADIER W. J. COLYER

FEW people have even heard of *Jowruj Jung*, the sailor deserter, or of his kingdom of Haryana to the North of Delhi. His kingdom was a mushroom growth which disintegrated in a few years and passed into oblivion, but there was a fateful moment when it might have played as important a part in the history of northern India as the Sikh Empire of Ranjit Singh, Lion of the Punjab.

At the end of the XVIIIth Century India in general, and the territory around Delhi known as Hindustan in particular, was the happy hunting ground of European military adventurers. Most of them took service in the armies of native princes, serving them for so long as their fortunes prospered. Thomas took a different line. Intolerant of any form of authority, he preferred to run his own private army, employing such European officers and sergeants as his means would allow.

George Thomas was born in Tipperary in 1756, and went to sea at an early age. Little is known of his life at sea and, at the time of his desertion off the Coromandel coast, his description varies between a quartermaster in the Royal Navy and a cabin boy in a trading vessel. After living several years amongst the lawless tribes of the Carnatic, and serving as a private in the army of the Nizam of Hyderabad, he eventually made his way to Delhi in 1797.

At the time of his arrival in Delhi the Mahrattas had not assumed actual control. They acknowledged the Moghul rule and kept the blind Emperor Shah Alam a prisoner in their hands. As his seal was still accepted, possession of his person was all-important.

Thomas at once sought service in the only Regular military force in the Delhi area, that of the Begum Somru, a vassal of the Emperor. The Begum was a character. Originally a Kashmiri dancing-girl, she was a woman of great beauty, extremely partial to the company of male Europeans. Her first husband, Walter Reinhard, son of a Salsburg butcher, was another naval deserter. He was a man of unpleasant character who was willing to descend to the lowest form of crime, provided he was adequately paid for his services. Before reaching Delhi he had served 14 masters and numbered amongst his crimes the murder of 40 English prisoners at dinner at Patna. They had died fighting with broken bottle and sand plates. Natural fear of reprisals had forced him to change his name to Somers, which his men had altered to Sombre on account of his saturnine features. This in turn was twisted to Somru.

The Begum was attracted by the good looks of this scoundrel, whom she married and placed in charge of her army. It is pleasant to learn that Sombre's methods met with little approval from his soldiers who, when their pay was in arrears, removed his trousers and placed him astride a hot cannon. Once their accounts were settled, they passed him on to the next regiment.

When Thomas applied for service in her army the Begum, now a widow, was attracted by his magnificent physique and placed him in charge of her forces in an outlying district, allotting him the revenue of a group of villages for the maintenance of his troops. Thomas soon proved his worth as a soldier and, what was more, was ready to take his part in the forefront of the fight. This was not at all to the liking of the majority of his brother officers, accustomed to command from a position of comparative safety well to the rear, and only then when treachery, bribery, and intrigue had failed to avert a battle. This fondness for hand-to-hand combat was bad enough.

But, worse still, Thomas made no secret of his contempt for all Frenchmen and everything French. As at that particular moment the chief of the Begum's artillery, the Frenchman le Vassult, was making extremely strong running for the place left vacant by the dead Sombre, Thomas's fate was sealed.

The Begum married her French gunner, embraced the Roman Catholic faith, and took the name of Joanna Nobilis. Thomas was arrested and imprisoned. Luckily for him, the Begum still had a soft spot for her handsome Irishman and spared his life. As a parting gift she gave him her favourite slave girl and £50 in cash. The slave girl was a start for the ample zenana Thomas was later to set up, and with the £50 he hired a gang of desperate cut-throats.

With his gang, Thomas plundered the surrounding villages and with the loot from them he added to the strength of his 'army,' which he put up for sale to the highest bidder. But he never forgot the kindness of the Begum, which he was later able to repay, coming to her rescue when her mutinous army threatened her life. Thomas was always a squire of women in distress, as was proved later by the help he gave to the Amazon of Patiala and the Widow of Ludhiana. In common with other European adventurers, Thomas dropped his surname for his Christian name of George, which the natives corrupted to *Jouruj*, later adding the title *Jung* (the Conqueror). He was known, too, as the *Jahaz Sahib* (the sailor officer).

George's offer of his army was accepted by a Mahratta chieftain, Appa Khandi Rao, who was out of favour with Mahodji Sindhia after a quarrel with de Boigne. Appa provided George with two guns, 100 horsemen, and the revenue of a group of villages and told him to get on with the job of maintaining order in one of his districts.

George had no difficulty in raising his battalions, as service with European adventurers was extremely popular so long as the soldiers received their pay regularly. When the money failed to appear, they adopted methods similar to those practised on the trouserless Sombre, or alternatively entered the service of some richer adventurer. George was an instant success and was lucky enough to save his master's life, for which he was rewarded with the gifts of an elephant and palanquin suitable to his new estate.

He was learning rapidly the basic lessons of oriental warfare: that it was better to accept a handsome ransom than destroy a garrison; that the timely offer of a bribe would nearly always persuade a vacillating ally to take no active part in the battle. After all, there was little object in sustaining unnecessary casualties, or of inflicting them on soldiers who might later be persuaded to transfer their allegiance. Money, too, was essential for the maintenance of an army. Although he was not slow to learn these lessons, it is to his great credit that George never descended to the depths of Mahratta treachery. Although Appa made several serious attempts to murder him, George always carried out his obligations to his master.

It was during this period that George developed from the common run of military adventurer into a skilled and astute general. Apart from observing the elementary principle of always showing a bold front to an oriental enemy, he exploited those of mobility and surprise to the full. His rapid night marches were an innovation to enemies who were more accustomed to spend the hours of darkness in the comfortable surroundings of their zenanas which accompanied them into the field. In addition he found that he had an excellent eye for country and outstanding judgment in the choice of a defensive position.

The Irish sailor was a man of immense physical strength, capable of decapitating a bullock with a single stroke of his sword. Time and again he changed the course of a fight by his own personal intervention, and his prowess became a byword with the Sikhs of the Sutlej. A whisper of the name *Jahaz Sahib* was sufficient to still unruly village children.

George's somewhat precarious career in Appa's service was terminated by the suicide of his master who, no longer able to bear the increasing pain of an incurable illness, drowned himself in the River Jumna. His successor, Vaman Rao, a mean, contemptible creature, demanded the return of George's villages and attempted to follow up his claim with force. George drove Vaman Rao's undisciplined rabble into a village, which he proceeded to shell with red-hot cannon-balls.

Deprived of his employment, George now became a freebooter pure and simple, plundering the villages of his neighbours and hiring out his army to the highest bidder. So well did his fortunes prosper that he decided to establish himself as a ruler, choosing the bare and desolate area of Haryana, which sadly belied its name (the green country), as his territory and the city of Hansi as his capital. Hansi was known as the Maiden City, having successfully resisted the numerous onslaughts of various Moslem invaders. Outside the city walls the graves of 40,000 sons of the Prophet bore silent witness to the justness of the claim.

Although George was illiterate he soon proved himself an apt administrator. He established a mint and his rupees bore the date of the 42nd year of the reign of the Emperor Shah Alam. On the obverse the middle line read *Sikah Saheb*, showing it was not the King's money. He started a foundry for his cannon, looting the cooking-pots from the nearby villages for his metal. A factory turned out matchlocks, muskets, and powder. Nor did he neglect stock-piling of provisions for his cherished campaign against the Sikhs, and he even made some rough medical arrangements.

His pension system still stands as a model to many civilized countries, who are prone to forget their disabled fighting-men when the threat of war is absent. George paid to the dependants of all those killed in action one half of the pay of the dead man. Provision was also made for the disabled. These pensions absorbed more than one-tenth of his total revenues.

This expenditure obliged him to postpone his Sikh campaign and to hire his army to Vaman Rao for use against the Rajah of Jaipur. This was a desert campaign centering on the capture or destruction of wells, the only existing water supply. Rajah Pertab Singh, with 40,000 Rajputs under his command, proceeded to fill the wells George would require. He underestimated his opponent, for the sailor, with 4,000 men and 28 guns, carried out a terrible 25-mile march across the intervening desert and surprised the Rajputs before they had filled the last well at Fatehpur.

With the water in his hands, George proceeded to construct a zareba of thorn bushes behind which he awaited the Rajput attack. So successful were the defenders that George was able to turn defence into attack and pursue the defeated enemy. Unfortunately, his gun-bullocks had been placed under cover too far in rear. This did not deter George, who pursued with his cavalry and one six-pounder gun. The Rajputs, perceiving the weakness of the pursuit, turned on him and his cowardly Mahratta cavalry fled, leaving him to his fate.

It was here that his naval training came to his assistance. Undeterred, he ran to his gun and loaded it to the muzzle with grape. Allowing the Rajput cavalry to approach within 40 yards, he mowed them down with a shower of grape. Three

times these brave men returned to the attack, and it was indeed lucky for the sailor they did not think of any other than a frontal attack.

George was deprived of the fruits of victory by the untimely arrival of Bikaner troops, who imposed on him an arduous desert retreat. Under such circumstances an oriental commander would have been expected to seek safety on the swiftest available horse. George won the love of his men by trudging at their head through the thick, burning sand. He also kept his army together and led them to safety. Once he had reached it, George took his revenge by a swift attack on Bikaner, but he was foolish enough to take part of the heavy indemnity in bankers' bills which, rather naturally, were repudiated.

So George had to go to war again, this time against the Maharajah of Udaipur at a fee of 50,000 rupees from Ambaji Ingliia. On the way to the campaign his troops demanded extra pay for serving so far from their families and, when their demands were refused, mutinied. George, who had taken the precaution of camping apart from his disgruntled troops, rode out to meet the mutineers. Seizing the leaders, he had one blough from a gun on the spot. The sight of their comrade's fate deterred the men from any further action, though George was undoubtedly in a very precarious position. The campaign was not a success, as Ambaji engaged in intrigue with the opposing general Lakwa Dad, the Mahratta Viceroy. In disgust Thomas departed for Haryana.

He had begun to realize the unsuitable situation of his kingdom, surrounded on all sides by the French-controlled Mahratta armies. He knew that to survive he must move his sphere of authority farther to the North. Ranjit Singh had not in those days welded the Sikhs into a nation, and George held the Sikh fighting-man in contempt. His campaign was planned on the grand scale. The first objective was Ferozepore, from whose forests he would fell timber with which to build boats for the embarkation of his army. He proposed to sail down the Indus as far as Karachi, landing to capture the territories on either bank as he passed.

He was playing for high stakes, and who knows that this illiterate Irishman might not have succeeded in accomplishing what cost the British three campaigns before they held the Punjab and Sind. Ever a loyal citizen, George offered his plans to the Governor-General, but the British were at the time too fully occupied in Egypt and the Deccan. So the plan was never put into force and George's Sikh campaign degenerated into some minor operations in the Sutlej States, mostly designed to help oppressed ladies.

Meanwhile, the danger to Hansi was daily increasing. The Frenchman, General Perron, knew that George was the main obstacle to his dreams of a French-controlled empire in Hindustan and he determined to remove him. Preferring to avoid the risk of crossing swords with so redoubtable an opponent, he offered him a high command in Sindhia's army, planning to transfer him to the campaign in the distant Deccan. He was confirmed in the correctness of his decision by the news that George had already started an attempt to win over two of his brigades in which a number of British officers were serving.

Once again George stood at the cross-roads. His dreams of a northern kingdom were shattered and he must have known he had little chance of holding Haryana against the French-trained Mahratta brigades. He was fighting a lone hand, as his resources allowed him to employ only two or three European officers and a handful of sergeants for his artillery. Nor were the prospects of a career in the Sindhia's army

without attraction. The post he was offered carried a large salary and, with his undoubted military abilities, he could look forward to even higher positions—perhaps even to the top. Two factors weighed against his acceptance. First, he was intolerant of any supervision, and secondly he hated and despised all Frenchmen. His refusal spelt war.

General Perron was a true product of the French Revolution, and brought many of its principles with him to India. One of them was to promote soldiers of low social standing over the heads of their more efficient superiors. One of these, Bourguen, he despatched against George. The craven *Loowee Sahib* who may have been an excellent pastry-cook, was certainly a most inefficient commander for, after an exceedingly trying march of 66 miles in 36 hours, he elected to throw his weary troops against George's fresh army which had taken up an immensely strong position.

Even so, the ensuing battle was indecisive and the loss at a critical juncture of one of George's best officers, the gallant Captain Hopkins, swayed the battle in Bourguen's favour. Nevertheless, for some unaccountable reason, Bourguen withdrew next morning, leaving the road to Delhi open to George, for all available reserves were on their way to the Deccan campaign.

In a few hours the whole position had changed. A quick advance, the seizure of the person of the Emperor, and George would have been the master of Hindustan. The wavering local Princes would have most certainly thrown in their lot with him. Here was his dream of eastern empire suddenly and unexpectedly fulfilled. Only a quick decision and advance were necessary and such matters were second nature to George. But the order to advance never came. For 15 days there was complete inactivity and during those days Perron had time to reorganize his forces.

For the whole of these 15 days George indulged in an orgy of drunkenness and vice. Some averred that the death of his friend Hopkins had upset his balance, but it is fair to presume that his orgies were of regular occurrence and that this particular one had merely arrived at a vital moment. Only one account of George's life exists, and his biographer has omitted reference to the less creditable features of his life. During these fateful days George handed over the command to Captain Hearsay, who was incapable of any major decision. When he resumed command Thomas found his army surrounded.

The fates do not forgive and George's star had set. His men knew it. Company by company, regiment by regiment, they began to slip from his camp and desert to the enemy. Mysterious fires broke out amongst his forage. His cattle began to die. His wells were fast running dry. George rested his last hopes on the safe arrival of a food convoy. These hopes were shattered when the noses of the camel drivers were thrown into his camp. He decided to fight his way out with his loyal cavalry, and his horse carried him 150 miles to safety from the fateful battlefield of Georgeghar.

His escape to his fortress of Hansi merely delayed the inevitable end. Major Pedron, who had replaced Bourguen in command, moved leisurely to its storm. George's depleted army repaired the fortifications, cast guns, and resisted bravely when the attack came. George himself fought in the streets of Hansi with his men, at one time engaging in hand-to-hand fighting with Colonel Skinner of the besiegers. Probably the whole garrison, which had remained loyal to him, would have perished, had not Skinner and the other British officers intervened with Pedron to grant the barren honour of a capitulation, and, what was even more difficult, persuade George to accept it.

His troops marched out with their private arms. Many of them had tears in their eyes and resolutely refused offers of employment in the Mahratta Army, though the alternative might well have been destitution.

The rule of *Jowruj Jung* was at an end. In a few weeks he had fallen from the shadow of the throne to the shame of captivity. That night his captors entertained him to dinner. No doubt they plied him over-generously with wine to save him from the torture of his thoughts. Suddenly, the foolish Bourguen rose to his feet and proposed a toast to the success of Perron's arms. This, from a man who had been so signally unsuccessful in the field, was too much for the Irish sailor. He drew his sword and chased the terrified Frenchman from the mess tent, shouting, "One Irish sword is still sufficient for a hundred Frenchmen." The Irish sword was to be stained with dishonour before the night ended, for, on his way to his quarters in the fort, he slashed off the hand of a sentry who attempted to bar his way to the fort which had yesterday been his capital.

Before the New Year of 1802, George left Hansi under the escort of one of Bourguen's battalions. He took with him his numerous family and the wreck of his fortune in money, jewels, and shawls. At Anupshah on the British frontier, where eight years previously he had embarked on his adventurous career, they handed him over to the British.

He was received by the Governor-General who questioned him closely on the Punjab and the Sikh people, of which at that time there was little information. He intended to return to Ireland with his family, and set out on the land journey to Calcutta, stopping on the way at Benares to dictate his memoirs to Captain Franklin who found him more at his ease in the Persian language than his own native tongue. These memoirs, which were printed for a limited list of subscribers, are the only record of the Indian life and exploits of this fascinating adventurer, except for the somewhat inaccurate extracts from brother-adventurers' diaries. It is unfortunate that the biography, which consists of detailed descriptions of his battles and exploits, says little of the personal life and feelings of the man himself.

George Thomas never reached Ireland. At Behrampore he was overtaken by one of his fatal lapses, which was to prove his last. A monument in the ornate style of the age was erected to his memory in the military cemetery, but a few years later Captain Franklin failed to identify it. The climate had probably started its ravages on the masonry and the name-plate may have slipped from its place, to be discarded by some cemetery gardener as illiterate as Thomas himself. Even had he been able to read the name would have conveyed little to him, for Behrampore is far removed from the Sulej villages wherein, a few years before, it had struck terror into the hearts of the Sikh villagers.

THE INDIAN EXPEDITIONARY FORCE, 1878

By "HAVILDAR"

THE Indian Army—now, alas! the Indian Army that was—has on many occasions provided an expeditionary force for service overseas, both in the days of 'John Company' and in later years, after it was reorganized under the service of the Crown. In most of these expeditions the units of the Indian Army had their full share of the fighting, but in the one about to be described their journey across the *kala pani* did not qualify them for a 'gong.'

The political circumstances which led to the despatch of this force are well described in the *Annual Register*, 1878; the day-to-day details will be found in *Hansard* and in the files of *The Times*. Further local details are given in *The Colonies and India*.¹ The salient features are as follows:—

The Russo-Turkish War, which broke out in 1877, virtually came to an end with the signing of an armistice at Adrianople on 31st January, 1878, and was finally concluded with the Treaty of San Stefano, which was signed on 3rd March of the same year. This treaty was not recognized by Great Britain, the opinion of Lord Beaconsfield, the Prime Minister, being that its provisions placed all South-East Europe under Russian influence. The re-arrangement of international boundaries had yet to be agreed upon—a new Bulgarian State was to be created—and affairs in the Near East were in a very unsettled state. The Russians, who were still occupying their positions of military advantage, gave every indication of entering and occupying Constantinople (Istanbul), which induced a state of panic amongst the inhabitants of the Turkish capital. The British Government, however, was not prepared to countenance an advance of this nature; nor were the Great Powers inclined to allow Russia to impose upon Turkey any terms she might think proper. Meanwhile, Turkey asserted that she had been coerced into signing the Treaty of San Stefano.

Lord Derby, the Foreign Secretary, could not make up his mind on what course to pursue, and during the last week in January, 1878, he had issued through the Admiralty a series of contradictory instructions to the admiral on the spot. Ever since July, 1877, the Commander-in-Chief of the Mediterranean Fleet, Vice-Admiral Geoffrey Thomas Phipps Hornby,² had maintained a strong force outside the Dardanelles, in order to be at hand to protect British nationals and property; but by the Treaty of Paris, 1856, foreign warships, except those for the service of the Embassies and the Danube Commission, were not allowed to enter without Turkish permission. In the end, Admiral Phipps Hornby was ordered to proceed with the ships then with him to Constantinople, whether or no the Turkish authorities granted the necessary *firman* to pass through the Dardanelles. This he did, after a formal protest on the part of the Turks, and the British squadron arrived off Constantinople, anchoring at Princes Islands (Kizil-Adalar) on the morning of 15th February, 1878. There were no untoward incidents during the passage of the ships past the Dardanelles forts.³ Once he had passed through the Dardanelles, Admiral Phipps Hornby

¹A defunct weekly journal for the interchange of information between all parts of the British Empire. (S. W. Silver & Co., London.)

²K.C.B. 12th August, 1878.

³The composition and movements of the Mediterranean Fleet during this period will be found in *The Royal Navy. A History*, by Sir William Laird Clowes, Vol. VII, pp. 291–302.

remained in the Sea of Marmara until the Russians finally withdrew from Adrianople, and he did not leave those waters until 19th March, 1879.

Meanwhile in England rumours were rife, and the 'war party' in Parliament was energetically opposed by those who held contrary opinions. The music-halls also contributed with a popular song :—

"We don't want to fight ; but by 'Jingo,' if we do,

We've got the ships, we've got the men, we've got the money too."

A conflict with Russia was thought to be by no means improbable, and as a precaution the Reserves were called out ; the occupation of Cyprus was also contemplated. On 28th March, Lord Derby resigned on a question of policy, being succeeded by Lord Salisbury.

Lord Beaconsfield then decided upon an unprecedented course of action, namely, the employment of Indian troops in Europe—they had served overseas on many occasions before this, though never in Europe. The day after Parliament had adjourned for the Easter recess there appeared in the English newspapers a telegram from Calcutta, dated 17th April, which stated that orders had been received from England for a contingent of Indian troops, about 7,000 strong, to proceed immediately to Malta. The news was received by the Press with comments which varied according to the political colour of the newspapers concerned, and the debates in the House of Commons and in the Lords were equally outspoken when Parliament re-assembled.

The promulgation of these orders was received with the wildest enthusiasm by the regiments detailed for the expedition, and when volunteers of similar class composition were called for from other regiments to bring the former up to full strength there was an immediate response. For example, the 2nd Gurkhas were reinforced by 40 riflemen of the 3rd Gurkhas. All furlough men were recalled, and their travelling expenses were paid by the State. British officers in India were no less enthusiastic, and the military authorities at Simla are said to have been snowed under with telegraphic applications for foreign service.

The class composition of the Indian regiments in 1878 differed from that of the old Bengal Army of the Hon. East India Company, most of whom mutinied in 1857. When the Indian Army was reorganized after the Mutiny, the high caste Brahmins were largely eliminated, and the inconvenience caused by the religious scruples of the Brahmins against serving overseas was thus reduced to a minimum.⁴

Regulation field service kit was taken, and in addition the Indian Government granted a free issue to each man of two canvas frocks, two pairs of flannel drawers, two jerseys, two pairs of warm socks, and one pair of English boots. Camp followers received a free issue of clothing on the following scale :—One blanket, one pair of pyjamas, one greatcoat, one lascar coat, one pair of boots, one tin canteen, one haversack, two pairs of socks, and two jerseys. Regiments of Indian infantry drew extra batta, and ration money in lieu of rations at the rate of Rs. 3-8-0 a month. Followers received an addition of 50 per cent. on pay and batta, as well as free rations. Forage for all horses, mules, and ponies accompanying the force was supplied by the State, with such assistance as the regiments were able to render after landing.

⁴There was one occasion in 1840, however, when the call for volunteers from the Bengal Army to serve overseas was responded to. This was the Bengal Volunteer Regiment, which was formed from the regiments in the neighbourhood of Barrackpore, Berhampore, and Dinapore for service in the First China War.

Complete camp equipment and quartermaster's stores for three months' supply were taken. Each infantry regiment also took 50 picks, 50 shovels, and 100 billhooks, packed in three pairs of camel khajawahs (panniers). No land transport was sent, but 2,000 sets of pack saddles for mules were ordered to be made up. Infantry regiments took with them 200, and cavalry regiments 100, rounds of ammunition a man. This amount of ammunition seems small for an expeditionary force proceeding overseas on active service, but no doubt it was considered that any further supplies would be provided at Malta. The infantry arm was the Snider rifle—the Cavalry had Snider carbines—but it is known that, whilst at Malta, at least one regiment exchanged its Sniders for Martini-Henrys.⁵ The composition of the force is given in Appendix A.

The first ships carrying the Expeditionary Force left Bombay⁶ on about 30th April. The sailing ships appear to have been towed the whole way. The voyage was mainly uneventful; there were five cases of cholera in the first few days, three of which proved fatal, but after 6th May all symptoms disappeared. The dates of arrival at Aden and Suez depended upon the speeds of the individual steamers; the first ships reached Aden on 9th May and Suez about nine days later. The whole force arrived at Malta between 25th May and 4th June. Here it stayed for about six weeks, the Indian troops gaining universal approval by their soldier-like bearing and good behaviour.

Shortly after its arrival at Malta the Expeditionary Force was inspected by H.R.H. the Duke of Cambridge, who came out specially for the purpose. He was most favourably impressed by what he saw, and in a telegram to the Viceroy he stated:—

"Having completed the inspection of the Indian force here assembled, I beg to congratulate you and the Indian Armies on the admirable appearance and efficiency of all the troops. Their health is excellent and their conduct admirable."

Before this, Her Majesty had already telegraphed to the Viceroy her great satisfaction at the loyal and spontaneous offers of troops which had been made by many of the Indian Princes and Chiefs.

In the middle of July the Expeditionary Force was moved to Cyprus, in order to be more on the spot in the event of the threatened conflict with Russia materializing. Russia, however, thought better of provoking a war with Great Britain; and at the Berlin Congress, which was attended by the Prime Minister and the Foreign Secretary, all ideas of war finally receded into the background. On 13th July, the Treaty of Berlin was signed. Lord Beaconsfield, in a balcony speech to the populace on his return, stated, "Lord Salisbury and I have brought you back peace, I hope with honour, and such a peace as will satisfy our Sovereign and add to the fame of our Country."

Cyprus had only just been ceded to Great Britain. It had for three centuries belonged to Turkey; but on 4th June, by a secret treaty with the Sultan, whereby the Queen undertook to defend the Asiatic dominions of the Ottoman Empire by

⁵*History of the 2nd King Edward's Own Goorkha Rifles (The Sirmoor Rifles)*, by Col. L. W. Shakespear. (1912.)

⁶The 25th Madras N.I. embarked at Cannanore. For embarkation details, see Appendix B.

force of arms in consideration of a promise by the Sultan to introduce all necessary agreed reforms, and of the island being in future occupied and administered by Great Britain, Cyprus became part of the British Empire. Its reversion to Turkey was provided if Russia gave up Batoum, Ardahan, and Kars.

On 12th July, therefore, the island of Cyprus was formally transferred to Vice-Admiral Lord John Hay (H.M.S. *Minotaur*), pending the arrival of Lieutenant-General Sir Garnet Wolseley, who had been appointed High Commissioner and Commander-in-Chief. The British flag was hoisted and saluted with all appropriate ceremony on the 15th.⁷ Sir Garnet arrived at Cyprus on the 22nd, and was officially proclaimed High Commissioner on the following day.

The Treaty of Berlin was ratified on 3rd August, after which the necessity for retaining the Indian troops in Cyprus no longer arose. The Indian Expeditionary Force was therefore broken up, and a week later the troops began to embark for Bombay. The first detachment (including the left wing of the 2nd Gurkhas) arrived at Bombay on 30th August, but it was not until about the end of October that the last of the Indian troops again set foot in India.

Full details of the return moves are lacking. Not all the same transports were employed, and some of the troops were conveyed back to India in H.M. Indian troopships. The I.E.F. was no longer 'news'; moreover, the Second Afghan War was about to start, and there were other troubles brewing with the natives in South Africa. It is not surprising, therefore, that the contemporary newspapers had little space left available for recording the final stages of what proved to be a bloodless military expedition.

To turn to the affairs of the present day. Cyprus, it will be noted, was, in 1878, the strategic point of assembly for a striking force. Recently, the need to be 'on a split yarn' has again arisen and the 16th Independent Parachute Brigade Group was concentrated in the same place as the Indian Expeditionary Force of 73 years ago. Then Russia loomed in the background; today, the circumstances are much the same.

APPENDIX A

COMPOSITION OF THE INDIAN EXPEDITIONARY FORCE, 1878

Staff

Major-General J. Ross, C.B. (British Service)	...	...	Commanding.
Brigadier-General H. T. Macpherson, V.C., C.B. (Bengal Staff Corps)	...	...	Cmdg. Infantry Brigade.
Brigadier-General J. Watson, V.C., C.B. (Bombay Staff Corps)	...	...	Cmdg. Cavalry Brigade.
Major F. J. S. Adam (Bombay Staff Corps)	...	...	A.Q.M.G.
Major W. T. Keays	...	...	Asst. Commissary General.
Captain S. D. Barrow (10th Bengal Lancers)	...	...	Brigade-Major, Cavalry.
Major R. M. Lloyd (Bombay Staff Corps)	...	...	Brigade-Major, Infantry.
Major J. G. Watts (Bombay Staff Corps)	...	...	Brigade-Major, Infantry.
Deputy Surgeon-General T. B. Beatty, M.D., F.R.C.S.I.	...	...	Principal Medical Officer.

⁷The London Gazette, No. 24609 of 30th July, 1878.

<i>Troops</i>		
<i>Regiment</i>	<i>Commanding Officer</i>	<i>Designation (1947)</i>
M Battery, 1 Brigade, R.A.	Major D. V. Shortland.	108th Heavy Anti-Aircraft Battery, R.A.
F Battery, 2 Brigade, R.A.	Major F. W. Ward.	153rd Heavy Anti-Aircraft Battery, R.A.
1st Bombay Light Cavalry	Colonel J. Blair, V.C.	13th Duke of Connaught's Own Lancers.
9th Bengal Cavalry	Colonel H. L. Campbell.	Hodson's Horse (4th Duke of Cambridge's Own Lancers).
Madras Sappers and Miners (2 Coys.)	Colonel H. N. D. Prendergast, V.C., C.B.	Queen Victoria's Own Madras Sappers and Miners.
Bombay Sappers and Miners (Nos. 3 & 5 Coys.)		Royal Bombay Sappers and Miners.
26th Bombay N.I.	Colonel J. Miles.	2nd/10th Baluch Regiment.
13th Bengal N.I.	Lieut.-Colonel W. Playfair. (<i>Officiating Commandant</i>)	10th/6th (Shekhawati) Rajputana Rifles.
2nd (Prince of Wales's Own) Gurkha Regiment (The Sirmoor Rifles)	Lieut.-Colonel D. Macintyre, V.C.	2nd King Edward VII's Own Gurkha Rifles (The Sirmoor Rifles).
31st Bengal N.I.	Colonel E. G. Langmore.	2nd/16th Punjab Regiment.
9th Bombay N.I.	Colonel C. Thompson.	4th/4th Bombay Grenadiers (Disbanded in 1930).
25th Madras N.I.	Colonel W. A. Gib.	78th Moplah Rifles (Disbanded in 1907)

Steamer	Tons	Regiment	Detail		
			European	Native	Detail
					European
					Native
					Salutary

EMBARKATION STATE⁸

APPENDIX B

Steamer	Tons	Regiment	Detail						Sailing Ship	Tons	Regiment	Detail						Horses	Ponies		
			European		Native		Followers	Horses				Ponies	European		Native		Followers			Horses	Ponies
			Officers	Soldiers	Officers	Soldiers							Officers	Soldiers	Officers	Soldiers					
Goa ...	1,906	25th Madras N.I.	6	—	10	363	111	5	—	Towed	963	25th Madras N.I.	5	—	4	337	66	5	—		
Maida ...	1,945	31st Bengal N.I.	6	—	8	362	93	6	—	Towed	1,309	M Baty., R.A., & Commissariat	3	91	—	—	81	85	—		
Madura...	1,942	31st Bengal N.I.	4	—	7	350	93	4	—	do.	1,625 1,889	M Baty., R.A. F Baty., R.A.	3 4	68 91	— —	— —	79 85	62 86	—		
Saint Osyth	3,541	2nd Gurkhas, G.O.C. & Staff	5 4	—	14	673	169	9	—	do.	1,118	F. Baty., R.A.	3	68	—	—	75	67	—		
Bengal ...	2,103	13th Bengal N.I.	6	—	10	520	128	6	—	do.	1,418	13th Bengal N.I. Nos. 3 & 5 Coys. Bombay S. & M.	4 4	— 12	5 4	195 188	59 48	5 2	—		
Canara ...	1,903	Madras S. & M. and Park Field Train. 9th Bombay N.I.	9 1	12 —	4 2	239 88	90 15	9 5	— 1	Towed	1,709	1st Bombay Lancers	2	—	2	108	17	115	20		
Bangalore	2,342	9th Bombay N.I.	9	—	14	622	150	9	—	do.	1,435 1,252	do. do.	1 1	— —	2 2	94 82	16 28	99 87	20 20		
Suez ...	2,141	1st Bombay Lancers	4	—	7	93	220	110	20	do.	1,544	do.	1	—	2	103	16	108	20		
Nankin ...	2,423	26th Bombay N.I. 9th Bengal Cavalry	6	—	10	432	114	6	—	do.	1,258	9th Bengal Cavalry	1	—	2	80	15	80	20		
Marina ...	1,358	26th Bombay N.I.	4	—	6	264	56	4	—	do.	1,336	do.	1	—	2	91	20	104	8		
Macedonia	2,273	9th Bengal Cavalry	—	—	—	—	—	—	—	do.	1,482 1,430	do. do.	4 2	— —	5 2	104 83	22 13	121 91	20 20		
Trinacria	2,107	1st Bombay Lancers	—	—	—	—	—	—	—	do.	1,189	do.	2	—	2	86	13	94	20		
12 No.	25,984	TOTAL	64 41 105	12 330 342	92 34 126	4,006 1,551 5,557	1,687 653 2,340	173 1,211 1,384	358 168 526	15 No.	20,957		41 330 105	34 1,551 653	1,211 168						

⁸ Frontier and Overseas Expeditions from India, Vol. VI (Expeditions Overseas). Intelligence Branch Division of the Chief of the Staff, Army Headquarters, India (1911).

THE APPLICATION OF AIR POWER TO WAR

By GROUP CAPTAIN N. C. HYDE, R.A.F.

AN article by Captain Vines, R.A., appeared in the JOURNAL for May, 1952, under the heading *A New Definition of War and its Application to Air Power*. The author first sets out to produce a new definition of war, he then attempts to prove by statistics and quotations that the strategic bombing of Germany in the 1939-45 War was a costly failure, and finally he firmly lays down that the main tasks of air power in a future war should be :—

- (a) The defence of the United Kingdom.
- (b) The defence of sea communications with the Royal Navy.
- (c) Support for the Army.

This article provides refreshing and novel reading, but with the menace of future war before us it is important that ideas such as those put forward by Captain Vines should be challenged and that other views on this vital subject should be considered. To this end it is proposed to deal separately with the three different themes of the article, briefly with the first two, but more fully with the third and vital issue of the use of air power.

DEFINITION OF WAR

The author's definition of war is : " The object of war is to enforce the national policy with the application of the minimum force necessary and as economically as possible."

This is confusing and it is suggested that the definition and the aim of war should be separated. War is " a continuation of national policy and is the ultimate process by which a nation or group of nations endeavour to impose this policy on others." It follows, therefore, that the aim of any particular war will be political, and how that aim is to be obtained will depend on the many circumstances surrounding the war. Captain Vines's insistence on stressing minimum force and economy is unnecessary. An aim should always be as simple, concise, and as unqualified as possible. The military aim in war is to bring the enemy to the state when he is unable or unwilling to continue to resist. This naturally has to be accomplished within the limits of a nation's economic and manpower resources. It is highly unlikely in any major war of the future that anything but the fullest use will be made of all national resources. The best use of these resources is the responsibility of the national government, and it should be remembered that economy of effort is one of the accepted principles of war.

THE EFFECTIVENESS OF THE STRATEGIC BOMBING OF GERMANY

After admitting that German oil production was reduced to five per cent. between the Spring of 1944 and the end of the war, and that the German rail transport system was crippled over the same period, Captain Vines concludes that : " Comparing effort with results, we have to face the fact that the campaign [strategic bombing] was the costliest failure in the history of British arms." He bases this conclusion on the grounds that German morale was not broken, total war production rose until the end of 1944, and that the collapse of the German economy came when the advance of the land forces had already decided the fate of the war.

It is not the object of this paper to criticize in detail the statements made in

Captain Vines's article. Its purpose is to refute the author's ideas as to the future use of air power. It is sufficient here to give a brief outline of the operations of the strategic bomber force in North-West Europe and to summarize its results as they affect the arguments put forward by Captain Vines.

Total war production did increase in Germany up to the end of 1944. This was to be expected and it would have been impossible, and indeed unproductive, for an attempt to have been made to reduce total war production. If it is desired to immobilize a motor car it is not necessary to wreck the whole car; the removal of one vital part of its mechanism is sufficient and very much simpler. Equally, to disrupt a nation's war effort does not require the wholesale destruction of war production. Strategic bombing was in its infancy, experience was lacking, many target systems were selected and attacked by strategic bombers, and much effort was diverted for the support of sea and land operations, such as the U-boat war and the invasion of North-West Europe. In spite of this, attacks on land transportation and oil during the last year of the war reduced the effectiveness of the German war effort to such a degree that success in the land battle was assured. Captain Vines appears to have overlooked the fact that action in the air, at sea, and on the land are complementary. He considers that strategic bombing was a failure because the success of the land battle was assured when the German economy collapsed. The success of the land battle was assured because strategic bombing had weakened the German effort long before its final collapse, and the diversion of production and manpower to the air defence of Germany gave our tactical air forces almost complete air supremacy in North-West Europe; with the result that the Allied armies were virtually unhampered by enemy air attack while receiving continuous close support from our own air forces. If the air situation in 1944 had been reversed, it is improbable that the invasion of North-West Europe could have been successful, even if it could have been mounted.

In case there should be any doubt regarding the effectiveness of strategic bombing it is necessary to quote the following reports and statements by Albert Speer, who was Reich Minister for Armament and War Production.

(a) In a report to Hitler in November, 1944 :—"The planned attacks on the installations of the German railways are of decisive significance . . . successful continuation of these attacks would be capable of resulting in a production catastrophe of decisive significance for the further conduct of war."

(b) In a report to Hitler in March, 1945, on the result of the bomber offensive on coal deliveries from the Ruhr :—" . . . mean that neither the coal supplies for shipping, for the railways, for the gas and electricity plants, for the food economy, nor for the armament economy can by any means be assured . . . the final collapse of the German economy can therefore be counted on with certainty within 4 to 8 weeks . . . after this collapse even military continuation of the war will be impossible."

(c) Under examination after the war :—"The planned assault on the chemical industry (synthetic oil), which began on May 12th, 1944, caused the first serious shortages of indispensable basic products and therefore the greatest anxiety for the future conduct of the war. . . . The attacks on the synthetic oil industry would have sufficed without the impact of purely military events to render Germany defenceless."

THE FUTURE

It is necessary here to quote the main conclusion of Captain Vines's article :—

" Apart from this [the maintaining of a small number of jet atomic bombers for reprisal purposes] the main tasks of our air forces should be :—

" (a) The defence of the United Kingdom.

" (b) The defence of our sea communications with the Royal Navy.

" (c) Support for the Army, including the gaining of superiority over the enemy air forces in the field, offensive and transport support.

" The first two tasks are designed to ensure our firm base. The third is the offensive task, designed to apply air power where wars are won—on the field of battle. These tasks observe the principle of minimum force in that they are directly related to the two essentials—the firm base and the tactical battle on land."

No one will disagree with the first two tasks, but the third, if accepted, would in all probability ensure our rapid defeat in a future war. The author disregards the fact that the principle of offensive action applies to war in any sphere and does not apply exclusively to war on land. Any nation that overlooks this point is inviting disaster. The statement that a land battle is a necessary preliminary to victory is surely incorrect. Japan surrendered before an Allied soldier had set foot on the mainland of Japan. It is not suggested that this was entirely due to air action. The Japanese had suffered reverses on land in Burma and the Philippines, and their sea power had been greatly diminished, but they had also suffered from heavy bombing attacks which culminated with the dropping of the two atom bombs. No land battle took place in the Battle of Japan, except for the clearing of distant islands for use as air bases. The vastly increased range and striking power of air weapons will make this type of conclusion to a war much more probable in the future.

All air action is tactically offensive, but the strategical offensive lies with the long-range bomber. The long-range bomber, and the long-range bomber alone, can win the air battle. The initiative must be gained and the enemy put on the defensive before victory is possible. The proof of this is in the last war. A German staff report, written in 1944, states :—" At the beginning of the war, operations of the G.A.F. determined the character of events ; the initiative has now, however, since 1941 been in the hands of the enemy." This is further illustrated by the balance of offensive aircraft (bombers) and defensive aircraft (fighters) in the G.A.F. In September, 1940, the G.A.F. had 1,162 fighters and 1,871 bombers ; four years later that balance in western Europe had changed to 2,473 fighters and only 209 bombers, and the Allies enjoyed almost complete air supremacy. Thus the British Isles were saved from heavy bombing and the mounting and execution of the invasion of North-West Europe was made possible.

Finally, it is of interest to attempt to visualize the situation that would prevail if we, as a nation, were to adopt the proposals put forward by Captain Vines. There is only one opponent with whom we are likely to engage in a major war in the foreseeable future. That opponent is immensely powerful on land and is entirely unscrupulous in the methods used to obtain his desired ends. At the outbreak of war we would have a powerful and efficient navy which, together with our Allies, could defeat any enemy surface forces, but whose efforts would almost entirely be used to protect our sea communications from submarine attacks. On land we would have an Allied army in western Europe supported by a powerful tactical air force. The Supreme Commander of this army has recently stated that the Western Powers

cannot, for economic reasons, support in peace-time armies comparable in size with those already maintained by our potential enemy. The potential enemy also has a large and efficient tactical air force. In the air we would have nothing with which to wage offensive war except Captain Vines's suggested small number of jet atomic bombers held in reserve for retaliation measures if required.

Does this situation hold out promise of victory? At sea we would be on the defensive and in the air we would be on the defensive. On land our comparatively small armies would be faced by powerful armies known to be efficient, well equipped, and having great reserves of trained manpower. Our tactical air forces would be fully engaged in protecting our armies from air attack by the enemy. Even supposing we could reach parity or win superiority on land, where is the decisive tactical battle to be fought? Long campaigns into eastern Europe have defeated two of the finest armies the world has seen. In the meantime what could be happening in the air? The initiative would be completely in the hands of the enemy. His homeland, his war industries, his communications and, in fact, his whole base would be immune from attack. His air defences could be neglected and the effort thus saved put into increasing his offensive effort with the corollary that we would have to increase our defensive effort. Captain Vines's small retaliatory force would not materially affect the issue, as an effective bomber force requires years of development, planning, and training.

CONCLUSION

This article has tried, very briefly, to discount the arguments and proposals put forward by Captain Vines in his article. It is not suggested, and it is hoped that it has not been inferred, that land forces are not an important and essential part of a nation's war machine. However, the attempt to discount the "decisive contribution to Germany's final defeat" (to use Mr. Churchill's words) made by Bomber Command and to propose the discarding of our only offensive weapon for the future must be challenged. Discussion helps to bring out the truth, and it is essential that we have a clear idea of the functions and capabilities of different weapons, particularly as any waste or unbalance in our war organization might well prove fatal.

HOME GUARD AN INTERPRETATION

By "INT"

THE Home Guard has come into the news again. It has been prophesied in some quarters that its role in any future war may call for a greater degree of mobility than that enjoyed by the old Home Guard. This being so, it may be of interest to the cause to give a short account of a particular unit that anticipated this development by some ten years, and organized its administration and training accordingly.

In the brief description that follows, no names or localities will be closely identified.

INTRODUCTION

The battalion in question was one of those that budded off in the late Summer of 1942 from larger units that had become unwieldy by reason of their strengths and the wide areas they covered, with the attendant difficulties of communication and administration. In the case concerned, space was the controlling factor. The original body numbered some 2,400 strong and covered an area of about 200 square miles of agricultural country, with one market town, many small villages, and a scattered rural population.

The division took place geographically on a line running practically due North-West and South-East through the centre of the area, and it was surprising how completely this arrangement bisected the all-round potential; not only was the ground about equally divided but also the population. In consequence, each resulting battalion absorbed about 1,200 officers and men, tactical responsibilities were proportionately shared between them, and the topography on either hand was very similar, each possessing a considerable tract of downland with the balance in mixed farmland. Communications by road were adequate. There was a profusion of minor roads and hard tracks serving the farming community; the downland could be traversed by wheeled transport in any direction, save where gradients prevented; the surfaces were hard everywhere.

At this period of time the whole force was well established and had shaken down into a cohesion and a steady routine. The separation of the two battalions was a completely smooth operation and left no anomalies. It had seemed probable that a major undertaking of this nature might tend to be upsetting, but this was not so, its success being due without doubt to the commonsense approach and practical planning by the higher authority that had characterized the reorganization.

Co-operation between the two partner battalions continued as though they were not divided. They still had a corporate existence together, as they formed a small sub-sector under its own commander. Thus they maintained their own characteristics and individualities as rural units, which would not have been possible had they been absorbed by the sector to the South of them, where they would have become misfits among urban battalions. Attachment in any other direction would have led to a repetition of the space difficulties.

Having explained the circumstances of the parting, we can now concentrate on what occurred to the West of the line of partition: with the budded unit, that is, leaving the parent to pursue its even course on the lines of its original inception.

PERSONNEL

Close detail of the command and organization of the West Battalion will not be entered into here. It is sufficient to say that it consisted of four weapon companies of about equal strength, 110 per cent. (including a 10 per cent. reserve of weapons) armed with rifles, stens, etc., and a headquarters company administering and holding the ancillary sections such as 29 mm. mortar, medium machine gun, signals and communications (including post office telephones and radio telephone sets). There was a certain amount of private, but subsidized, transport—heavy and light—and a few purely military vehicles.

The only hitch in the launching of the unit occurred when it changed its commanding officer after a bare six weeks of command; ill health necessitated a severe operation that ruled out for him any participation in the field. He left as a legacy to his successor, however, a carefully worked out plan of n.c.o. classes, which was well and actively established at the time of handing over. This one act influenced subsequent happenings to a very marked degree, for it ensured an abundance of young and active n.c.o.s—beyond the battalion requirements, it was thought at first. It proved to be a most wise provision from every point of view, for it not only provided a cadre against casualties, but also enabled us to rely more and more on young n.c.o.s trained within the Home Guard for its particular needs, rather than on the older men steeped in their memories of army service in the 1914-18 War.

In the early Autumn of 1942, the commanding officer called for a return furnishing mainly civil information with regard to the unit personnel. In this such things as profession or trade, talents, age, degree of physical fitness, etc., were all included. When compiled, the master copy proved to be a most illuminating document. It disclosed the outstanding fact that over 55 per cent. of the officers and other ranks serving were connected with the land, either as farmers, foremen, machinists, or agricultural workers, who by virtue of their calling were exempt from military service: and the bulk of these numbers lay within the age groups below 35 years old.

In training, it had long been a recognized fact that the standard of achievement must be based on the pace of the slowest, since every other man serving was elderly and past his best. The domestic census taken as a result of the commanding officer's decision brought out the equally obvious fact that every other man in the West Battalion was young and physically fit enough for the Regular army. Naturally the question arose: why should one half of the unit handicap the other half simply on account of this unalterable circumstance? The younger men were held back—literally, in pace—by the older, and the latter were hustled beyond their capacity by the more active section. This point was patent, when once observed, in all exercises involving any sort of movement—even if only in the getting in and out of a lorry. The mixture in these proportions was anything but explosive.

ORGANIZATION OF SUB-UNITS

From these premises a working plan was evolved. Briefly, it consisted of the formation of two sub-units within the battalion: the 'assault' component, which was light infantry and very mobile, and the 'defence' component, which was heavy infantry and more static. At action stations the commanding officer kept both components under his hand; the assault component by direct contact when two or more assault companies were involved; the defence indirectly by the inter-

communication system—motor cyclists, cyclists, runners, post office telephones, and radio telephony when available.

Assault and defence components operated separately as the nature of their respective roles demanded: the area of operations of the assault component was only limited by the range and endurance of its transport and fuel supply, while defence sub-units' activities were confined to the vicinities of their defended localities, which could be built up to defence company strength, but not higher. Co-operation between the two elements was expected in those cases where the situation called for joint action.

Each platoon and section of each component had an exactly similar counterpart in the other. The smallest self-contained fire unit was the battle squad (equivalent to the field army section) composed, as for battle drill, of eight men in fire and support groups. The battle drill system formed the basis for all training. Each component consisted of four companies—four-square as compared with the three-cornered field army compositions of three companies—and similarly, each company was square, containing four platoons, assault or defence as the case might be.

Each component was assigned a clearly defined role. The battalion order of battle followed the ordinary military pattern with the difference that—below command level, with its ancillary elements of close support groups, mortar batteries and medium machine gun sections—the system bifurcated right and left into assault and defence components respectively, with the mobile elements taking place to the right of the arrangement and the static being posted to the left.

This may be likened to the figure of a boxer—a 'southpaw' in this case—carrying a hefty punch in his right arm which had the peculiar attribute of being greatly telescopic, giving an out-of-proportion reach. (This represented the assault component.) The left, or guard, arm was rigid by comparison but still capable of sufficient movement, and carrying an equal, though less elastic, punch in its grip.

To carry the analogy further: the fingers of the right hand were formed by the four assault companies, and the thumb of the clenched fist—the fifth digit—was supplied by the supporting groups of mortar and medium machine-gun elements. The whole body was vitalized by the intelligence, information and communication systems. To implement the function of the first two requirements, two motorized reconnaissance troops—each at battle squad strength—were formed to act as 'go-getters.' The circulation was furnished by the supply and transport services, which each made their energizing contributions; casualties and reinforcements coming within their ambit.

We can afford to look a little more closely at the combatant roles, and in this we can still adhere to our fistic simile. The right hand struck the blow, and the left guarded and held; working together, circumstances might well arise where, between them, they could produce a very lethal version of the epitomic foul blow in boxing, where an opponent is struck with one glove whilst being firmly held with the other. The difference in this case, of course, was that there were no gloves and no Queensberry rules.

Roles were reversible, and the possibility was envisaged of an assault sub-unit being involved beyond its capacity. It could then switch to defence, and call upon its nearest 'hedgehog' for assistance by counter-attack or distractive action. It might again require an increase of fire power to subdue an adversary or even a reinforcement to thicken up an attack.

All these aspects were studied and practised and became current activities in training.

ADMINISTRATION

To return now to the general matters of organization. Details such as transport, petrol, and ammunition supply were dealt with in their turn. Roughly speaking, the assault component took the bulk transport—farm lorries and so on—with, of course, an allotment of privately-owned cars as command vehicles, etc. The defence component was served with smaller types of truck and private cars. There was no real shortage of vehicles or fuel supplies.

The plan was no mushroom growth, formulated overnight on a sudden impulse: it was, on the contrary, built up and enlarged upon gradually, until all the minor details had been worked out and the obstacles overcome. Neither was it in the nature of a 'private army.' Before it could be implemented it remained to get the principle of the organization accepted at a higher level. This acceptance ranged from enthusiastic to tolerant as it went upwards, but the fact remained that it was accepted and put into practice without delay.

The reception of the scheme by the local field army commanders at ascending levels was encouraging in the extreme: they seemed to go out of their ways to assist in its advancement. It was true to say that not one of our requests went unheeded, and they were as anxious as the Home Guard units themselves to avoid complexities of armaments. In this connection it may be noted that Northover projectors, 2-pounder guns, and Smith guns which were allotted to the battalion were returned in exchange for additional issues of 29 mm. mortars, cup dischargers, medium machine guns, light automatics, rifles, and grenades. Concentration was made on these latter arms, and training, practice, and proficiency with them proved to be as much as could be digested by the trainees.

The new arrangement was greeted with satisfaction by the personnel, officers and men alike, of both components. For the younger it meant speed and mobility, and for the older respite from the more vigorous activities that they had been called upon to perform, and had performed—all credit to them—with a will, but at some physical effort really beyond their capacity.

Weapon training continued to be the paramount activity. In the case of the assault sub-units it was allied more and more with movement; tactical exercises were coupled with ordinary visits to the range, working up to mobile attack practices with live ammunition. Proficiency with their weapons was called for from the sub-units of the defence component, but the tempo of their training was slowed down to suit them.

PLAN OF ACTION

Plans for the method of employment in case of action were formulated for the whole unit and comprehensive standing orders were issued.

It was anticipated that a pre-stand-to period of alarm must precede attack—probably in the form of bombing and ground strafing. On any such inkling of enemy action battalion battle headquarters, with manned information room, came into active being. The reconnaissance troops also came to hand: 'A' troop, being 'metropolitan,' forming at battalion headquarters, and 'B' troop, being 'provincial,' at their domestic rally point on the large estate where all the personnel

were employees. By no other arrangement could very early warning of the extent and direction of enemy action be expected.

In the event, it was recognized that the initial alarm must be given by a sub-unit—perhaps even by a single man. On this information, confirmed and enlarged upon by the reconnaissance elements and passed on by any means at their disposal, hinged all the motivating machinery of “stand-to” and “action stations.”

Numerous exercises had to be practised in order to prove and improve resources in this direction. It will be seen that under these arrangements movement was already taking place by key integers of the battalion—that is battalion headquarters and reconnaissance troops, each with a signals link—by the time that “stand-to” was ordered. In a force of this description, “stand-to” had invariably to precede “action stations” for the men were in no sense continuously under arms. The time interval between the two phases being the uncertain quantity, it had to be assumed for all practical purposes that they would succeed each other rapidly, so every item that could reflect or implement speed over the period had to be planned and rehearsed over and over again until the process became almost automatic and every controllable contingency was dominated.

Most of the defended localities were situated away from the villages. It was considered that their presence would thus be less easily detected and that they would tend to draw the enemy's attention away from the centres of population rather than towards them.

The defence and disputation of roads, etc., was, it was thought, better left to the mobile elements, who were practised in the erection of road blocks and possessed sufficient fire-power to cover them and to mount counter-attacks on enemy troops.

Another facet of the assault component which was practised was ‘wolf pack’ pursuit of mobile enemy bodies, where Home Guard sub-units hung on to the rear and flanks, leaving no respite.

The number of directives concerning the new role was kept low. What there were were so succinctly drafted as to eliminate any form of redundancy. The commander concentrated on several points that he considered imperative, including proficiency with all weapons and uniformity of dress and bearing. His slogan was :—“You are now soldiers and you will be treated like soldiers : I expect you to behave like soldiers.” It answered.

The threat of general invasion was by this date fading to a great extent but it was being supplanted by the presumption that, as our military power mounted and tended to concentrate towards the South coast in preparation for the assault across the Channel, the Germans would see to it that the course of these events would not go unhindered. In consequence of this, plans were being formulated to meet such eventualities and these included a number of coastal and near-coastal Home Guard sectors and sub-sectors.

That the units were never called upon to fulfil their expected tasks is beside the point ; they were prepared and they were physically and practically ready to do so, and there is no doubt at all that they would have rendered an excellent account of themselves.

In the preceding years, the battalion area had been subjected to all varieties of bombing attack from the air. It can be said, therefore, that there was no question of the troops not being ‘salted.’

In common with all the force, they had the handicap of lack of endurance from the point of view of replacements of men, weapons, ammunition, and supplies generally. In the early days it was a sinister prospect, when trained and equipped bodies of Regular troops were few and far between. At one juncture the Home Guard were told that no help could be afforded by army formations for at least 12 hours after the emergency developed.

In those times the degree of training achieved and the armaments possessed by battalions enabled them to carry out guerrilla and sabotage activities, only, over that period—or even longer—without a crippling strain on their resources of ammunition and manpower; they maintained their ability to “cut and come again.” In later days, however, as proficiency developed with weapons and power of manoeuvre—their ability in field- and wood-craft had also moved forward—the assault component was capable not only of carrying out its harassing role, but of standing toe-to-toe and fighting it out.

The risk of incurring the wastage in personnel and supplies generally that was involved in the latter type of engagement was an accepted principle and it was considered as being offset, and its consequences limited, by the readier availability of active troops, as the gap in time-aid gradually retracted from 12 to six to two hours, and then to one hour (the latter during the concentration period prior to D-Day when the South coastal and sub-coastal Home Guard areas bristled with Regular troops).

In the case of the West Battalion, the task offered and accepted was that of protection of the three concentration areas within battalion touch against enemy interference from the North for the three weeks prior to D-Day.

From the 19th April, 1944, the battalion actively co-operated with the invasion preparations. Battalion headquarters was manned 24 hours a day for nearly three months, and assault and defence components remained on call nightly at half battalion strength. All road and rail bridges and culverts were surveyed daily in search of interference or sabotage. An important railway tunnel was guarded over a similar period by a standing patrol, and a regular sweep was maintained over the section of the strategic railway where it passed through the area of battalion responsibility.

CONCLUSION

As can be understood, the nature of the reorganization occasioned a certain amount of comment—none of it adverse—on the part of visitors to the area, military and Home Guard alike, very senior and otherwise in both categories. At this nobody was surprised, but surprise was certainly most widely felt over the fact that the organization went no further and was not emulated anywhere else on this battalion's example, nor did it, as far as anyone knew, arise spontaneously as in the case under review. It is true that very few Home Guard sectors could produce identically similar surroundings, but there must have been numbers where conditions closely approximated.

What is not known, however, is whether the idea was gradually assimilated and nurtured in the military archives, to be reborn perhaps in the infant Home Guard of 1952.

GENERAL-FIELD-MARSHAL ALBRECHT VON ROON THE BEGETTER OF THE GERMAN EMPIRE

By BRIGADIER-GENERAL SIR JAMES EDMONDS, C.B., C.M.G.

NOW that a new German Empire is in the making, it is of interest to recall how, in 1871, by means of three successful wars, in 1864, 1866, and 1870, the small state of Prussia of under 20 million inhabitants, divided by a 'corridor,' was able to found the German *Reich*. The new *Reich* had more than double that population and was composed of all the German States, excluding Austria, with the King of Prussia as the Kaiser.

It has passed into history that King William I of Prussia, with Prince Bismarck as his political adviser and General-Field-Marshal Count Moltke as the military strategist, was the creator of the *Reich*. These two aids and abettors have told their stories. Bismarck published his *Gedanken und Erinnerungen* (Reflections and Reminiscences), and Moltke edited the Official Histories of the three wars. These books, and histories generally, say little about General-Field-Marshal Albrecht von Roon, who was Minister of War in the fourteen critical years from 1860 to 1874. Yet it was he, it seems, rather than Bismarck, who was the prime mover in the creation of the *Reich*.

Only one English book that I have read, *The Refounding of the German Empire 1848-1871*, by the late Colonel G. B. Malleon, gives Roon much credit, speaking of him as "the third man in the illustrious triad presided over by the Sovereign," who made Germany. He was really the first, and was the patron of Bismarck and the military superior of Moltke. But Roon did not write his reminiscences; he did not even leave any account of his activities as Minister of War. Some years after his death, in the 'nineties, his eldest son published two volumes of *Denkwürdigkeiten* (Memoirs) about him, containing extracts from his speeches on military and political subjects and from his correspondence, undoubtedly heavily censored. It was not until shortly before the outbreak of the 1939-45 War that a real source book about him was published. It is entitled *Graf Albrecht von Roon. Sein Leben und Wirken* (His Life and Activities), by H. M. Elster. This tome of 647 pages is a collection of speeches, letters, and correspondence with the King, Bismarck, other eminent persons and with his wife, with just a thin thread of narrative to hold them together.

In his preface Elster says: "We Germans have only just begun to appreciate Roon, who was neither understood nor recognized by his own times and by the following decades." The letters, in fact, put an entirely different complexion on his relations with King William and Bismarck. One can understand their being withheld until the Hitler regime, for it is clear that it was Roon, Dutch by descent and name, who planted the seed of the idea of a German Empire, with Prussia at its head, in the mind of the King; that it was Roon who impressed on him that an army was required to bring the seed to fruition; and it was Roon—against the King's inclination—who called in Bismarck, who was in the diplomatic, not the political, service, to overawe the Prussian Parliament (*Landtag*) when it refused to vote the money for the increase of the forces.

Roon was, as his German biographer calls him, "a self-made man". His father, who had left the Army as a second lieutenant to attend to a small estate near Stettin, died in 1811 when Roon was eight years old; his mother followed his father to the

grave two years later; and the boy was left in the care of a grandmother. When she died, she left only 100 thalers, say £15.

A cousin managed to obtain for him (as a deceased officer's son) entrance to the Culm Cadet School, which he joined at the age of 12. In January, 1821, he received his commission as second lieutenant in an infantry regiment in a small garrison. In spite of the chaff of his comrades, he read and studied and passed into the Staff College, then called the *Allgemeine Kriegsschule*.

It does not seem that he attracted the special notice of the military staff of the college; but one of the civilian lecturers, the celebrated Karl Ritter, who was Director of Studies of the Cadet Corps, spotted that he was a man of promise, and on his completing the three-year course, obtained for him an instructorship at the Berlin Cadet School. Ritter warned him not to waste his time there, and he devoted his leisure to compiling a political-geographical study, *Grundzüge der Erdvölker und Staatenkunde* (Outline of Peoples and States of the Earth). This book was published in 1832 and ran through three editions and in an abbreviated form, for cadet use, through seven. It attracted both royal and official attention to him. During the troubles which led to the division of the Netherlands into Belgium and Holland, both he and Moltke served on the staff of General von Muffling, who was in command of the Prussian Corps of Observation. This had the result that in the following year, 1833, he was appointed to the Topographical Department of the General Staff. In the course of survey work in Pomerania he met the 19-year-old Bismarck, whose family resided in this province and who from time to time accompanied him, and thus laid the foundations of a life-long friendship.

The experience with mobilized troops on the frontier had shown Roon that Prussia was unready for war. She had no plan, the officers had no experience as leaders of operations, and in the regiments at least one-third, in some one-half, of the rank and file were untrained recruits. From that time forward, in and out of season, he advocated the reform of the Army. This became known to, and was approved by, General von Krauseneck, the Chief of the General Staff, so that in March, 1835, after two years of surveying, he was called—at the same time, it so happened, as Moltke—to the General Staff in Berlin and placed in charge of the collection of intelligence about a possible theatre of war.

In January, 1836, he was promoted captain. From 1843 he gave private instruction to the 15-year-old Prince Frederick Charles, son of Prince Charles of Prussia and, in 1870-71, the celebrated commander of the German Third Army.

In November, 1845, he was appointed to the General Staff of the IV Army Corps, commanded by Prince Charles of Prussia, and four months later became tutor of Prince Frederick Charles, accompanying him to Bonn University. After two years of this he was recalled to the General Staff as Director of the Topographical Section.

His views at this period, which would have found favour with Adolf Hitler, were that the armed forces were the forces of the Sovereign, not of the constitution. He held that they should be used to gain for Prussia the premier place in a united Germany, from which Austria should be excluded. Austria was, indeed, an important obstacle to his plans, as she was the most influential member of the *Deutscherbund* (Germanic Confederation), a loose collection of the German States, which had a *Bundtag* (Diet) which discussed affairs and occasionally took action.

In June of that troublous year, 1848, Roon was appointed Chief General Staff Officer of the VIII Army Corps at Coblenz, succeeding his friend, Major von Moltke

During a change of generals he exhibited great discretion in the use of troops for keeping order in the Coblenz area, so that nothing occurred like the revolutionary rioting in Berlin, still less like the armed insurrection in the neighbouring Grand Duchy of Baden, where three corps under the command of Prince William of Prussia, brother of the childless King Frederick William IV and later the King and Kaiser William I, were employed to restore order. It was at this time that the Prince made the acquaintance of Roon and began a friendship with him which was to be life-long. Roon put his views before his future sovereign, who adopted them. During the short campaign the inadequacy of the Prussian preparations for war had been evident. It had taken the three corps a whole month to drive a badly-armed mob of inferior numbers over the frontier into Switzerland.

On parting Prince William directed Roon to correspond with him. But nothing could be done until, on the breakdown of the King's health in 1857, Prince William became his *Stellvertreter* (substitute). The next year he became regent and succeeded to the throne on 2nd January, 1861.

Roon was promoted to lieutenant-colonel in September, 1850, and the Minister of War, thinking that he was gaining too much influence over Prince William, took the opportunity to deport him as far as he could, to *eine kleine Garnison*, Thorn, right on the Polish frontier, to command a two-battalion reserve infantry regiment. A year later, however, the regiment was transferred to Cologne in the district commanded by Prince William, and Roon was promoted to colonel. It was then that he wrote a pamphlet for private circulation in the form of a letter, elaborating the idea of the supremacy of Prussia in the military high command of Germany, and arguing that the existence of Germany as a State depended upon it. He remained in Cologne until 1856, when he was given command of the 20th Infantry Brigade in Posen and promoted major-general. On Prince William becoming *Stellvertreter*, he wrote for him a *Denkschrift* (Memoir) "Remarks and Proposals for the Military Constitution of the Fatherland," which enumerated the reforms later put into effect.

On becoming Regent, Prince William appointed a new Ministry, put Roon's project before them, and gave him the division in Düsseldorf. But the new Minister of War offered passive resistance.

The war in Italy in 1859, when France and Sardinia drove out the Austrians, offered a chance to Prussia to make a profitable bargain with Austria; but she had not sufficient military power to take advantage of it. She mobilized five corps, and the 1st Ban of the *Landwehr*, but the reservists, owing to exemptions, were 55,277 short, and those who did appear, having had only one week a year refresher course, proved to be little better than a citizen militia. In December, 1859, the Regent called Roon to Berlin to be Minister of War, an appointment he was to hold for 14 years, and a few months later made him also Minister of Marine to Prussia's infant navy. He received permission to lay his army reform scheme before the Lower House (of elected members) of the *Landtag*, which he did in February, 1860. The main points of his plan were the reduction of liability to obligatory service from 19 to 16 years, divided into three years (instead of two) with the Colours; four years (instead of five) in the Reserve; and nine years (instead of 12) in the *Landwehr*. The yearly recruit contingent was to be increased from 40,000 to 63,000; and the peace strength from 150,000 to 213,000, the number of infantry battalions being raised from 135 to 253, and 18 more cavalry regiments added. The expenditure entailed was 10 m. thalers (say £1½ m.) per annum, with an initial cost of half that sum. The House did not accept the plan, but voted 8 m. thalers additional to normal for

one year. So reorganization was begun. Next year, 1867, the House voted only 7.5 m. thalers extra, and demanded explanation of the military expenditure. Whereupon the King dissolved it.

Roon was a clear and concise speaker, but he had no powers of persuasion and no saving grace of humour. As early as June, 1861, he had "pressed the King to call upon Bismarck," as he needed the help of a strong Minister-President. But William, who disliked Bismarck, chose a man of his own. After the coronation Roon drew up (November, 1861) a memoir for the King on the political parties in Prussia and the ministers, pointing out the certainty of perpetual crises over the army question. The election in December "surpassed all fears," increasing the opposition to Roon, and in March, 1862, the Ministry resigned.

After the following election Roon wrote to Bismarck that he could count on only 20 supporters. He found the King unable to come to a decision, slow, and ready to make concessions to the opposition. After a long correspondence with Bismarck, then ambassador in Paris, he telegraphed to him, on 17th September, without obtaining the King's permission, to return to Berlin at once: "Danger in delay." It was certainly time; for, on 23rd September, the Lower House rejected the whole cost of reorganization by 302 votes to 11. In an audience with the King on the previous day Roon had said: "Call in Bismarck. He is here in order to receive your orders." William consented. The interview which ensued has already been recorded in Bismarck's *Reflections and Reminiscences*. Bismarck persuaded the weak King to abandon his idea of abdication and was given office. When the Lower House met on 29th September, it found Bismarck as Minister-President, and in his first address he informed the members that the future of Prussia depended: "not on speech-making but on blood and iron."

Although the Lower House had rejected the budget, the Upper House disapproved of its action, and thus provided a specious solution. No provision had been made in the Constitution for a disagreement between the monarch and the two Houses. Bismarck put forward the opinion that, if the three constitutional authorities could not agree, the view taken by the King and one of the Houses should prevail, and acted on it. The Lower House was prorogued and then dissolved; and he proceeded to govern and levy taxes without a budget.

On their return to their constituencies, the deputies received thanks and congratulations for their resistance. In 1862, at any rate, the Prussians did not like army service, and did not want a large army with which to overawe or overcome their neighbours so that Prussia might be the head of the German tribes, and Germany the foremost nation of Europe. They were dragooned into the Roon-Bismarck plan. Meantime Roon continued the reorganization of the army, in particular raising the peace strength of units, so that they required fewer reservists on mobilization.

In January, 1863, when the Lower House reassembled the conflict was resumed. It refused to approve of the expenditure in 1862, and of the budgets for 1863 and 1864, and, later, of a loan of 12 m. thalers for the Prussian share in the war against Denmark, nominally on behalf of the Germanic Confederation. The excuse for this had been the alleged over-taxation and ill-treatment of the inhabitants, mostly German, of the Schleswig-Holstein duchies, of one of which the King of Denmark was the Duke. It was not Adolf Hitler who invented ill treatment of Germans living on foreign soil as an excuse for war and annexation of that soil.

The Allies soon began to quarrel over the spoil, and a Prussian force of 12,000 men turned the Austrian occupying force of 5,000 out of Holstein and war ensued.

The King, Roon wrote to Bismarck on 4th April, had been "wavering, uncertain and doubtful"; the Crown Prince (Kaiser Frederick of 1888) at a Crown Council was definitely opposed to the war and spoke of it as a "*Bruderkrieg*" (fratricidal war). Yet, under Roon's tutelage, the King allowed preparations to proceed, and approved of Moltke's plan.

In the subjection of Austria which ensued, Roon, as in the Danish war, was the "centre point of events." He was not only responsible for the mobilization and supply, but for munitions and reinforcements, in fact for all the administration work. He was also responsible for the operations, as the General Staff, including its chief, Moltke, was still subordinate to the Minister of War.

When it came to the peace negotiations, Bismarck telegraphed to Roon that "if the King has any doubts about the armistice terms, I beg you earnestly to combat these doubts with all your might." And Roon replied: "In a quarter of an hour I am proposing to the King to telegraph to you: 'By the special desire of H.M. the Kaiser (of Austria) expressed to Me, I approve of the settlement that he has proposed to Me.'" The King agreed at once and sent Roon an autograph letter of thanks for his services and bestowed upon him the Grand Cross of the Order of the Red Eagle.

In spite of the success of the Danish War, the parliamentary strife had continued. When the Lower House met in January, 1865, it refused to pass the supplementary estimates for that war, or the funds necessary for the increase of the army, and was prorogued, not to meet again until January, 1866. It then protested against what was happening in Schleswig-Holstein, refused a vote for the infant navy, and on 2nd February, 1866, was closed by Bismarck.

The war with Austria certainly was something of a gamble; for with her Germanic confederates, Bavaria, Saxony, Hanover, and Hesse, she could put 390,000 men into the field, while Prussia and the small states could muster only 300,000. Prussia, as usual, got her blow in first, and the campaign was over in seven weeks.

It is somewhat amusing to read, after the shrieking of the Germans about the "Diktat of Versailles," that in a letter dated 26th July, 1866, Roon wrote to his wife: "The Austrian plenipotentiaries have just signed the preliminaries of peace *dictated* by us." Prussia, by annexing the Duchies, and also Hanover, Hesse-Cassel, and Nassau, increased her population from 19 to 23 millions, deposed Austria from her place in the Germanic Confederation, and became head of a new *Bund*, the North German Confederation of the States of Germany.

On the day of the battle of Königgrätz, 3rd July, 1866, a new Prussian Lower House had been elected. Instead of 11 seats, Bismarck's supporters gained 142, and became the strongest party. Military success had intoxicated the nation. The House assembled on 3rd September and, on Roon's proposal, gave indemnity to the Government for levying taxes from 1862 onwards on its own authority and voted a donation of 1½ m. thalers to the successful generals, of which the King gave 300,000 thalers to Roon to purchase an estate.

Under Roon's guidance an immediate increase in the army was sanctioned on 26th August, 1866, and taken in hand. Ten new corps were formed, of which Saxony provided one, Bavaria two, and Wurttemberg and Baden another; 520,000 men could be put into the field. By 1870, the war total had risen to 936,915, with 413,872 in

reserve and in administrative posts, all provided with modern equipment and apparatus. It was, as Roon's biographer claims, a gigantic achievement; and "without Roon, no Moltke; and without Roon also no Bismarck." The Emperor William in a speech phrased it: "You, War Minister von Roon, have sharpened our Sword; you, General von Moltke, have used it; and you, Count Bismarck, have by the conduct of policy, brought Prussia to her zenith."

With the war against France at an end, and in "lively recognition of his great services to the army," the King, now the German Kaiser, raised Roon to a Grafdom and awarded him another donation of 300,000 thalers.

Two more corps were raised, so that in 1873 the peace establishment of the army was 418,000. In ten years its strength had been doubled, the General Staff also doubled, and pay and pensions improved.

From April almost to the end of the year 1872, Bismarck remained on the sick list on his estate at Varzin, and Roon acted as his deputy; but as the latter wrote: "The hermit of Varzin wants to do everything himself, but on the other hand issues the sharpest orders that he is not to be disturbed." A breach had begun to ruffle the good relations of the two men, though Roon never took part in the intrigues against the Chancellor.

At the end of 1872, Bismarck, whilst remaining Chancellor of the Empire and Foreign Minister, resigned the Prussian Minister-Presidency. Kaiser William forced Roon to take it over, saying at the same time that he could not relieve him of the Ministry of War, but would appoint a deputy with the special title of Second Chief of the Army Administration. He promoted Roon to be General-Field-Marshal. In a few months, however, Roon, now 70 and suffering from asthma, felt his years beginning to tell. In October he begged to be allowed to retire and, after bestowing on him the order of the Black Eagle in brilliants and recording his services in a special Cabinet Order, William granted the desired favour, thanking him specially "for the support you have given me in carrying out the reorganization of the army with such rare circumspection, consistency, and energy." One can generally carry out a plan with success, if one does not mind someone else, in power, taking the credit for it.

NAVAL OPERATIONS ON THE COAST OF SYRIA, 1840

By COMMANDER W. B. ROWBOTHAM, R.N.

THE coast of Syria has been the scene of naval operations on a number of occasions in the past. Those operations which formed a part of the grand strategy of the time, such as the frustration of Bonaparte's campaign in Egypt at the close of the XVIIIth Century, included some severe fighting, particularly on shore during the defence of Acre in 1799. In the 1914-18 and 1939-45 Wars, also, there was no little naval activity on the Syrian coast.

The operations described here were in support of the preservation of the balance of power in Europe and the bolstering up of the Ottoman Empire. Although they may not rank very highly in terms of actual fighting—they were for the most part isolated small raids—the cumulative effect of the influence of sea power was never more clearly manifested.

One point to which attention may be drawn is that this was the first occasion when steamers were employed to any great extent in naval operations. A limited use of them had, of course, been made before, notably during the First Burma War (1824-26), the Carlist War (1836), the rebellion in Canada (1838), and to an increasing extent in China (1840).

Shortly after the beginning of the reign of Queen Victoria affairs in the Levant became very unsettled. Mehemet Ali, Pasha of Egypt, who owed allegiance to the Sultan of Turkey, had for some time been scheming how he might assert his complete independence of the Ottoman Porte; and, in 1839, he had received great encouragement by the defection of Achmet, the Capitan Pasha, who sided with him and took practically the whole of the Turkish fleet to Alexandria. Disturbances in Syria were rife, and in June the Turkish army there suffered defeat at the hands of Mehemet Ali's forces at Nezib.

The Eastern Question continued to exercise the minds of the five Great Powers—England, France, Prussia, Russia, and Austria—who considered that European interests would best be served by maintaining the authority of Turkey in all her sovereign rights. But the negotiations dragged on, month after month, without anything definite being forthcoming. With these prolonged discussions, however, we are not now concerned. Those interested will find a comprehensive survey of the political aspect in the *Annual Register*, 1839-41, and in Commodore Sir Charles Napier's *The War in Syria* (2 vols.). What will be described here is the part played by the Royal Navy.

Matters came to a head on 15th July, 1840, with the signing of the Brunnow Convention by England, Austria, Prussia, and Russia on the one part (but without the concurrence of France), and by the Sublime Ottoman Porte on the other, wherein Mehemet Ali was offered the administration of the Pashalic of Egypt and the possession of the Pashalic of Acre, with the administration of the southern part of Syria, for life.¹ If, within ten days of the receipt of the notification of these terms, they were not accepted, the Sultan was to offer him Egypt alone; and if, after a further ten days, they were still refused, the Sultan would withdraw the offer and take such steps as his own interests and the counsel of his Allies might suggest to him. To this offer, formally proffered by the Sultan, Mehemet Ali put forward counter-proposals, but they were not considered satisfactory. The Sultan then rather hastily

¹ *The London Gazette*, No. 19895 of 22nd September, 1840.

pronounced the formal deposition of Mehemet Ali from the Pashalic of Egypt and sent a *firman* to Alexandria notifying the decision. This step, which did not meet with the approval of the four Powers, was unfortunate and caused much difficulty and delay in the ultimate settlement of the insurrection. By this time Mehemet Ali realized that he had several European Powers to contend with and not merely a weak Turkey; he said that he would not be the aggressor, though he was determined to repel force by force.

The Sultan then issued a declaration that the ports of Syria and Egypt would be blockaded as from 16th September. Before this, however, Captain Charles Napier (*Powerful*, 84) had, on 10th August, been ordered to hoist a blue broad pendant as Commodore, 2nd Class, and to proceed with five ships to Beirut in order to summon the Egyptian authorities to return to their allegiance to the Sultan.² He arrived there on the 13th, being joined later at different dates by several other ships. Meanwhile the Commander-in-Chief, Admiral the Hon. Sir Robert Stopford (*Princess Charlotte*, 104, Captain Arthur Fanshawe), who had been at Mitilini, proceeded to Alexandria, where he arrived on 24th August.³ Here he found the *Bellerophon*, 80 (Captain Charles John Austen), *Cyclops* str., 6 (Captain Horatio Thomas Austin), *Hydra* str., 4 (Commander Robert Spencer Robinson) and the Austrian frigates *Medea*, 48 (Commander Johann von Buratovich—flag of Rear-Admiral Franz, Baron Bandiera) and *Guerriera*, 49 (Captain H.I.H. the Archduke Friedrich). The defected Turkish fleet was lying inside the harbour.

It will be noted that Mehemet Ali had, in addition to his own ships of war, that large part of the Turkish fleet which threw in its lot with him. He should, in theory, have been able to exercise strong control over the Syrian coast and virtually to have stopped all supplies from reaching the Turkish forces in Syria. But the presence on the spot of a numerically smaller, though more efficient, Allied fleet under a British Commander-in-Chief effectively prevented the Egyptians from doing anything of the sort; in fact, they never attempted to interfere with the Allies afloat. The coast roads, which were the only feasible routes for the rapid movement of the Egyptian troops already in Syria, were under a constant threat of fire at focal points from the blockading Allied warships, which thus held the enemy in check.

Although four European Powers had subscribed to the Brunnov Convention, two of them—Prussia and Russia—refrained from taking any active part in the coming operations. The attitude of France was even more non-committal, and there were good grounds for attributing to her a desire to support Mehemet Ali; in fact, at one time an outbreak of open hostilities with France was regarded as by no means improbable. The Allied sea forces therefore comprised the British Mediterranean fleet and a small Austrian squadron. The latter included, besides the two frigates already mentioned, the *Lipsia*, 20 (Lieutenant Peter Madalena), three other corvettes, a schooner, and a steamer. There was also that part of the Turkish fleet which remained loyal to the Sultan. This last was commanded by Rear-Admiral Baldwin Wake Walker Bey⁴ (*Mookuddimay-i-hive*, 74), whose other principal ships were the *Dewan* frigate and the *Gul Sefide* (or *Gulfideh*) corvette.

In the operations about to be described only those ships which were actively engaged with the enemy are mentioned in the dispatches. The others, however, were

² *Ganges*, *Thunderer*, *Edinburgh*, *Castor*, *Gorgon* str.

³ The spelling of place-names in the original documents varies; that adopted here follows the current Sailing Directions.

⁴ Captain, R.N., in the Turkish service.

all usefully employed in transporting troops and stores, watching other places on the Syrian coast, patrolling off Alexandria, or communicating with Constantinople (Istanbul). One of the articles in the Brunnow Convention allowed for the entrance into the Dardanelles and the Bosphorus of the warships of the High Contracting Parties during the existing emergency. At all other times, the several countries engaged to respect and conform to the ancient rule of the Ottoman Empire that, in time of peace, no foreign ship of war should be admitted into the Dardanelles or the Bosphorus.

Active operations were begun on 9th September, and, at 7.45 a.m., Commodore Napier's squadron, which had been anchored off Beirut since 13th August, was joined by the Commander-in-Chief with other ships of the Allied fleet. That evening the Royal Marines and the Turkish troops (7,000 in all) were transferred into the steamers.

At 9.30 a.m. next day, a feint bombardment of the place was opened, and as soon as the sea breeze had set in the steamers and the lighter sailing ships, together with the *Powerful* and the Turkish 74, stood for Juniye Bay, where the troops were disembarked the same afternoon; the landing was unopposed, and no time was lost in throwing up entrenchments. Admiral Stopford, with most of the ships of the line, remained at Beirut; the remaining ships anchored at various points along the coast, ready to bombard the roads and give warning of any approach of the enemy. No attempt was made at this period to take the town, which was bombarded intermittently during the next four days, as the troops were not then ready to occupy it. This disembarkation of a large number of troops on an open beach showed up the totally inadequate boat accommodation of the paddle frigates, and the recent invention by Captain George Smith, R.N., of paddle-box boats was urged to be adopted in order to meet this deficiency.

The officer appointed to command the Allied troops in Syria was Colonel (local Major-General) Sir Charles Felix Smith. He had taken passage from Gibraltar in the *Pique*, 36 (Captain Edward Boxer), but by the time he arrived off the Syrian coast his health had broken down and for the next month he was on the sick list. Commodore Napier therefore landed in command of the troops. He continued in that capacity until 11th October, when Sir Charles Smith, who by then had recovered, was able to assume the command.

Napier was one of those officers who were always inclined to be restive when under the immediate command of a senior officer, and he had a rooted dislike to playing second fiddle to anyone. As he could not be commander-in-chief afloat, the next best thing, he thought, was to command the troops in the field. In any case, there was no other senior officer immediately available for this duty, and he had no difficulty in obtaining the acquiescence of Admiral Stopford to his taking charge of the land operations for the time being. He seems to have thoroughly enjoyed himself in the capacity of a soldier.

Meanwhile, at noon on 12th September, the *Carysfort*, 26 (Captain Henry Byam Martin), *Dido*, 16 (Captain Lewis Davies) and *Cyclops* anchored with springs within musket shot of Jubeil. Many of the mountaineers, who were opposed to the Egyptian rule, then came down and were embarked. At 1 p.m., the ships opened fire on the castle, which replied with occasional musket shots. About an hour later 200 mountaineers, who had been armed, and 200 marines under Captain Charles Robinson, R.M., of the *Hastings*, 72 (Captain John Lawrence) were landed to assault the castle. They were received with a heavy fire from a crenelled out-work, which had a deep ditch in front and was completely masked from the fire of the ships.

Captain Austin, who had superintended the landing and accompanied the marines, then sent off to say that nothing could be done until the castle had been levelled. Upon this the ships opened fire again ; but at 5.30 p.m., seeing that the result was negligible, Captain Martin ceased firing and ordered the marines to re-embark. The mountaineers remained on shore. A British flag which had been inadvertently left behind was recovered by Lieutenant Sidney Grenfell and Charles McDonald, A.B., both of the *Cyclops*.

That night a party of mountaineers occupied the town, and at daylight next morning the enemy was found to have evacuated the castle, leaving three men wounded (one mortally). Although all the arms had been distributed among the mountaineers, the attack on the castle proved rather expensive to the marines, who had five men killed and Second Lieutenant Charles William Adair (*Hastings*) and 15 men wounded. The Royal Marine landing parties were composed of officers and men from a number of ships, not all of which were necessarily present in a particular operation. Thus, in this instance, the marines who were casualties belonged, not only to the *Hastings*, but also to the *Benbow*, 72 (Captain Houston Stewart), *Castor*, 36 (Captain Edward Collier) and *Zebra*, 16 (Commander James John Stopford). The only naval casualties on this occasion were Lieutenant George Giffard and one seaman wounded, both of the *Cyclops*. A total of five killed and 18 wounded.

Moving farther down the coast, the *Castor*, *Pique*, and *Dewan* arrived off Haifa on the evening of the 16th, and at 8 a.m. next morning a flag of truce was sent in with a demand to surrender the place to the Sublime Porte. The flag was refused and warned off, whereupon the ships took up their bombarding positions, and at 9.30 fire was opened on the shore batteries. After a few broadsides the enemy abandoned his positions and fled. By noon, the Ottoman flag was planted on the ramparts by Lieutenant Charles George Edward Patey (1st of the *Castor*), who was immediately reinforced by a party from the *Pique* under Lieutenant Douglas Curry (1st of that ship), and the whole party then proceeded to bring off or destroy the guns and stores in the defences.

On the morning of the 18th, the *Castor* shifted berth to cover the entrance to the Acre gate, at a distance of one mile from which 500 enemy troops were seen drawn up. Towards noon, the enemy occupied a castle, mounting five guns, which was in rear of and commanded the town ; but after the British ships had bombarded this and dislodged the enemy, Lieutenant Patey landed with a party and destroyed the castle. The only British casualties were Lieutenant John McDougall and Mr. George Gale, carpenter, both of the *Pique*, who were severely wounded by the explosion of one of the Egyptian guns whilst it was being spiked.

Following the capture of Haifa, the *Castor* and *Pique* appeared off Tyre at noon on the 24th ; the *Dewan* should also have been with them, but was prevented by lack of wind from taking up her assigned position and did not rejoin until next day. The town was summoned to surrender to the Sultan, which the Civil authorities at once consented to do ; but as 500 Egyptian troops still kept possession, Captain Collier warned the inhabitants to quit the town forthwith, as he intended to dislodge the troops. Having given them time to do so, the ships opened fire at 500 yards range and soon achieved their object.

At daylight next morning, all the marines and a few seamen, under Lieutenant Patey, landed and took possession of the town. Two guns, which were found mounted on the works, were disabled, and a quantity of munitions and grain in the public

stores was taken. The enemy had thrown up sandbanks, ten feet high, covering the approach to the town on the sea side, and these were levelled by a party under Lieutenant Curry, being all the while in full view of 1,500 of the enemy's troops, who were two miles off. There were no British casualties, and none of the inhabitants was hurt.

The next attack on the Egyptian positions was a failure. Information had been received from deserters from the Egyptian cavalry that the enemy's grain store-houses at Tortosa, which were situated close to the beach, were practically unguarded. Captain Stewart, who had with him the *Carysfort* and *Zebra*, therefore determined to make an attempt to destroy them. At 1.15 p.m. on the 25th September, the two smaller ships, which had anchored within 500 yards of the beach, opened a well-directed fire on the buildings, and at the same time the boats shoved off for the beach. Unfortunately, the heavier boats grounded on a ledge of rocks before they could get in, but Lieutenant Edward Philips Charlewood (3rd of the *Benbow*) pushed on in the cutter, to be received with a heavy fire of musketry—it was afterwards learned that 300 of the enemy had entered the place early that morning. The demolition party was shortly reinforced by Lieutenant William Maitland (1st of the *Benbow*) with about 14 men by another turn of the same cutter; but after breaking open several stores, the last one attacked was found to be full of soldiers, and a struggle ensued. Two of the enemy were killed by three of the pioneers in Charlewood's party, but having nothing except axes the latter were obliged to give way, though the arrival of more of the landing party dissuaded the enemy from following them. Captain Stewart then went in in his gig and, learning that there was no prospect of success and that practically all the ammunition had been expended or rendered useless by being wet, ordered a general retirement. Every man was got off, and the unused demolition charges were also brought away. The British loss in this affair was five killed and 17 wounded.

Meanwhile Napier, with the Royal Marines and Turkish troops, had been conducting an energetic offensive on shore against Ibrahim Pasha, the son of Mehemet Ali, who was in command of the Egyptian forces in Syria. The business of arming the mountaineers was also in full swing. These purely land operations, however, will be only lightly touched on here. The next important operation in which the ships were concerned was the capture of Sidon.

Sidon, which was held by close on 3,000 men, was the main depot for the southern division of the Egyptian army; and as Ibrahim did not appear to have any immediate intention of attacking the Turkish position at Argentoun, on the north side of the Nahr el Kelb, or Dog River, Napier proposed to the Commander-in-Chief that he should make an attack on Sidon. This was agreed to, but on the 23rd Admiral Stopford informed the Commodore that Captain Maurice Frederick Fitzhardinge Berkeley (*Thunderer*, 84) would command the expedition. This change of who was to command was resented by Napier, and later in the day his remonstrance had the desired effect. But by the evening Stopford began to doubt whether the attack was justified at all, in view of the probable loss of life which would be incurred in the capture of so strongly held a place; moreover, he explained, it was rather outside the scope of his instructions, which were primarily to land arms for the Syrian mountaineers.

Next day Napier, with a composite force of four Turkish battalions, the 2nd Battalion, Royal Marines, and an Austrian rocket party, crossed the gorge of the Nahr el Kelb and made a successful advance against the enemy, driving him from

the heights at Ormagacuan, which overlooked the river. More mountaineers then came in and were supplied with arms. The tactical situation, however, was not yet consolidated, and as the advance of Sulieman Pasha's ten or twelve thousand troops from Beirut would have been an easy matter and an Allied retreat difficult, Napier fell back on his former position on the other side of the river and prepared for the blow against Sidon, where it was least expected.

But while this scrap on the heights was taking place, the Commander-in-Chief's doubts crystallized into a fresh decision to abandon the Sidon plan. He was probably being beset on all sides with contradictory proposals, but nevertheless this vacillating 'yes and no' was exasperating to Napier, who lost no time in coming off to see his chief. In the end he managed to calm his superior's fears and to persuade him to sanction the operation. After dining with him on the 25th, the Commodore left the *Princess Charlotte*, promising to be back at Juniye Bay within 48 hours with the Egyptian garrison 'in the bag.'

Napier's instructions were to proceed in the *Gorgon*, 6 (Captain William Honyman Henderson) towards Sidon, where he would fall in with the *Thunderer* and *Wasp*, 16 (Commander George Mansel) and take them under his orders. The object of the expedition was to arm the inhabitants in that area and, if necessary, to land troops in order to allow of their approach to Damur, after which the troops were to re-embark and go on to Sidon. If the Governor of Sidon refused to surrender, the place was to be bombarded, avoiding as far as possible destruction of private property. After taking possession of the town the Syrians were to be supplied with arms, but the place was only to be held long enough to enable this to be done, and a speedy return to Juniye Bay was enjoined.

Commodore Napier accordingly shifted his broad pendant to the *Gorgon* and left Juniye Bay at midnight on the 25th/26th, in company with the *Cyclops*, having on board the 1st Battalion, Royal Marines, under Captain Arthur Morrison, R.M., of the *Princess Charlotte* and 500 Turkish troops under Kourschid Aga.⁵ Sidon was sighted at daylight next morning, when Napier was joined by Captain Berkeley with an Allied squadron, making eight ships in all.⁶

At 9 a.m. immediately on anchoring, the Governor of Sidon was summoned to declare for the Sultan; and no answer having been received by 11 o'clock, the bombardment then began. After half an hour the ships ceased firing and Captain Austin landed the Turkish battalion, which had a few men wounded in the process. As the enemy still remained firm the ships re-opened their fire, battering down the houses in front. Commander Mansel then landed the 295 marines under Captain James Whylock, R.M., who had just arrived out from England in the *Stromboli*, 6 (Commander Woodford John Williams), and 100 Austrian marines. They were directed to work their way to the upper castle which commanded the town, during which Lieutenant Charles Francis Hockin, R.M., was killed and several men were wounded. The rest of the marines (about 451 in number) were landed on the beach to the North of the town.

⁵ The existing regulations on the flying of a blue broad pendant laid down that it was not to be flown in any ship other than that to which the officer was appointed to command as captain. Transferring it from the *Powerful* to the *Gorgon* was therefore irregular, though in this instance no meticulous objection was raised by anyone.

⁶ *Thunderer*, *Wasp*, *Guerriera* (Au), *Gul Sefide* (Tu), and the steamers *Gorgon*, *Cyclops*, *Hydra* and *Stromboli*.

All being ready for the assault, Napier advanced at the head of the Royal Marines, and at the same time the other detachments also pushed forward; the parties entered the town at their pre-arranged spots and seized the various points in the defences.⁷ A little desultory street fighting took place, and before very long the whole garrison surrendered. The total casualties in the attacking force amounted to four killed and 33 wounded.

The prisoners were embarked in the *Cyclops* and *Gorgon*, which got back to Juniye Bay during the afternoon and evening respectively of the 27th, when Napier was able personally to report the complete success of the operation well within the time he had estimated. The Turkish troops remained in occupation of Sidon, the rest of the squadron being left under the command of Captain Berkeley. Four officers—Commander Mansel and three mates—were promoted for their services on this occasion, dating as from 28th September.

The effect of the easy capture of Sidon gave great encouragement to the chiefs of the mountaineers, who had hitherto not had much confidence in the Allied operations. Meanwhile Ibrahim had again established himself on the heights of Boharsof and had destroyed the habitations of the mountaineers in that district.

The next coast raid took place five days later. On the evening of 1st October, information had been brought off by two Egyptian deserters that a train had been laid from the town of Beirut to the castle, in which was stored 200 barrels of powder, and these men volunteered to cut it if a boat was provided for them. Next forenoon, Captain Lawrence sent in three of the *Hastings'* boats, under Commander Henry John Worth, to destroy the train and bring off as much of the powder as possible; what could not be brought off was to be thrown into the sea. The landing party was protected by two boats of the *Edinburgh*, 72 (Captain William Willmott Henderson) and covered by the fire of the two ships. The train was cut and 31 barrels of powder were brought off, about 60 or 70 more being thrown into the water; but as the enemy's troops were then coming down in force and were sheltered by the houses, Commander Worth considered it advisable to retire. The British loss was Mr. Frederick Luscombe killed, and three seamen and one of the Egyptian deserters wounded.⁸

In the afternoon, Commanders Francis Decimus Hastings (*Edinburgh*) and Worth again took a party in and, under the covering fire of the ships, effected an entrance into the castle, in spite of a galling fire of musketry from the enemy. Only one man could work at a time in getting out the powder, but a great number of cases were thrown into the sea, and as the evening was closing in Captain Henderson recalled the boats. This latter operation occupied only about 40 minutes. At about 2 a.m. on the following morning, the enemy blew up the castle. The only British casualty in the second part of the operation was one marine of the *Edinburgh* wounded; the total enemy loss it was learned, was 51 killed and many wounded.

⁷ This is Napier's own account. (Napier, i, 89.) Another version is that he did not personally enter the place until 20 minutes after it had been taken by the marines. (*Britain's Sea-Soldiers*, ii, 50n, by Colonel Cyril Field, R.M.L.I.)

⁸ Luscombe's rank is not accurately known. Captain Lawrence and the *Hastings'* log both describe him as "Mr."; Captain Henderson calls him a Master's Assistant (which was probably his correct rank); in the *Hastings'* muster book he is entered up as "A.B."

There was much military activity on shore during the following week, which may be briefly summarized by stating that Beirut was occupied on 9th October and next day Ibrahim was defeated at Boharsof and put to flight. In this last engagement the Royal Marines were not present, having been withdrawn by order of the Commander-in-Chief. With these happenings the ships were not actively concerned, except to transport troops from one point to another and to guard the coast road.

On the day before the action at Boharsof Sir Charles Smith had arrived at Juniye Bay with a *firman* from the Sultan, constituting him General in command of all his forces in Syria. Napier was therefore ordered by Admiral Stopford not to embark on any further operations without Sir Charles Smith's concurrence and to fall back on Juniye. But the Commodore was already committed to his course of action and, realizing that the Commander-in-Chief was not fully aware of all the circumstances, decided to take the responsibility of disregarding these orders. As we have just seen, a signal defeat was inflicted upon the enemy.

Napier came on board the *Princess Charlotte* on 11th October, when he handed over his temporary command as a soldier to Sir Charles Smith. His suggestions for prosecuting the conduct of the operations do not seem to have been received with any enthusiasm, and he returned to his own ship which was at Juniye Bay. Having embarked all the troops and stores, he then moved to Beirut, where it blew with sufficient force to prove the insecurity of the anchorage. Here, as at other places along the coast, a westerly gale placed the ships on a dead lee shore, and the sailing ships had no other course than to claw off as best they could to gain an offing. The low power of the steamers of that day was of no assistance, and when it came on to blow they always banked fires and reverted to the old and well-tried method of sail. Later in the year, several ships were caught at anchor in a severe gale, when, among other mishaps, the *Zebra* was wrecked and the *Pique* only escaped by cutting away all her masts.

During the latter part of October, the Egyptian cause was further set back by the abandonment of Tripoli, Latakia, and the passes of Adana, the garrisons retiring on Aleppo. Napier comments that, "had a little more energy been used by us, the greater part of these troops must have fallen into our hands."

Up till this time Acre had not been molested, although it had been reconnoitred. On 24th October, Admiral Walker, with several Turkish men-of-war, was despatched to Acre to make a demonstration, being joined there by the *Revenge*, 76 (Captain the Hon. William Waldegrave), *Pique*, and *Talbot*, 26 (Captain Henry John Codrington). A flag of truce was refused and Admiral Walker fired a few broadsides into the place, to which the Egyptians made no reply. Meanwhile, the two British frigates carried out a survey of the shoals and approaches, for which work the two captains were specially mentioned in the subsequent dispatches.

About this time orders, dated 5th October, were received from England to attack Acre, with the proviso that this was not to be undertaken unless certain of success and without interfering with other operations. Accordingly, 2,933 Turkish troops under Selim Pasha, the supernumerary Royal Marines and small detachments of Royal Artillery and Royal Sappers and Miners—the two latter under Major Thomas Gordon Higgins, R.A., and Lieutenant Edward Aldrich, R.E., respectively—were embarked, and during the night of the 30th/31st the Allied fleet left Beirut for Acre. Conjointly, Omar Bey, with 2,000 Turkish troops from Sidon, marched to take up

a position in the pass of the White Mountain (Jebel Mushaqqā), 11 miles North of Acre. The fleet anchored off Acre on the afternoon of 2nd November, when the final arrangements for the attack were settled.

But when Napier went on board the flagship he found it had been decided, on the recommendation of Captain Boxer that, as the sea breeze did not set in before about noon, three of the steamers—the fourth was reserved for the Commander-in-Chief himself—should each tow a line-of-battleship in to her bombarding station opposite the West face of the fortress; they were then to return for the others. Napier did not agree with this plan, on account of the time it would take, and he expressed the opinion that if this were done the attacking force would probably be defeated in detail. He was, however, overruled.

Next morning, the arrangements were altered. At daylight, the steamers got under weigh in order to be lashed alongside their respective ships, and Napier again went on board the *Princess Charlotte* to repeat his misgivings; he also pointed out that, as the sea breeze usually set in from the northward, it would be preferable to wait until it was steady and then to come in from the North, thereby avoiding the spit which ran out from the South-West angle. In the end, he persuaded the Admiral to abandon the towing plan. The masters of the *Princess Charlotte* and *Powerful* also agreed that they would prefer to sail in rather than be towed.

Here, it may be remarked, was a good example of how not to organize an attack of this nature. Instead of issuing a general plan for the approach, with the positions each ship was required to take up, each captain seems to have been given his orders individually, with the result that no one knew what any of the others had been told to do. With the ever-present liability of a shift of wind in a confined area, it is astonishing that more care was not taken to make the orders fool-proof. So different from the elaborate precautions taken by Nelson before the Battle of the Nile to ensure that each of his captains knew not only exactly what he should do in every conceivable circumstance, but also what the others were to do!

Meanwhile, preparations had been made for the ships to anchor by the stern and, as a southerly breeze had sprung up, it was determined to attack from that quarter. Napier was then ordered by signal to come on board the flagship, where he was instructed to place the *Powerful* opposite the South-West angle of the fortress; the *Princess Charlotte* was to pass ahead of her and anchor. The other captains were not present, but, he says, he concluded that they had their instructions.

At about 11 a.m. the general signal was made to weigh, but the *Powerful* was delayed by a mishap with her sheet anchor and cable, which had been improperly bent the evening before. Napier's description of what had been done is not very clear, but it seems that the cable was part chain and part hemp. While rectifying matters a large bight of cable was let go by the run, which almost tore the anchor from the bows. All attempts to rouse in the slack of the cable were unavailing, so he had to weigh and hope for the best; but this had hardly been done when the lashing of the sheet anchor carried away, bringing the ship up by the stern. The sheet cable had to be cut and reliance placed on the stream anchor, which, as Napier observed, "is by no means a safe way of bringing up a ship alongside a battery." The Commodore was not pleased and no doubt expressed himself forcibly to all concerned. Fortunately the wind died away, which gave time to get the stream anchor ready.

The sea breeze proper set in at about 1 p.m., and the first, or northern, division was ordered by signal from the *Phoenix*, 4 (Commander Robert Fanshawe Stopford) to form on the *Powerful*. The Commander-in-Chief, it should be explained, accompanied by Sir Charles Smith, had gone on board the *Phoenix* in order better to superintend the bombardment, though his flag was still kept flying in the *Princess Charlotte*. It seems to have been the Admiral's intention that the northern division should approach from the South, in order to engage the batteries on the West front of the fortress. but Napier had other ideas. He therefore stood well to the North to round the shoal and give the other ships room to follow. A signal was made to the *Powerful* to bear up, to which Napier replied, "Intend attacking from the North." This answer was not understood, and the Flag Lieutenant was sent on board to know what they were waiting for, when Napier desired him to explain to the Admiral his intended manner of approach. The *Revenge* was then ordered by the Commander-in-Chief to keep under way, as a reserve. This left the *Princess Charlotte*, *Thunderer*, *Bellerophon*, and *Pique*, in that order, to follow the *Powerful*. These ships, having got well round the shoal, then bore up and ran down with a westerly breeze along the shore towards the North angle of the defences.

At 2.30 p.m., the *Powerful* "shortened sail and anchored head and stern with stream and B.B. about 800 yards abreast the forts. Opened fire with rest of squadron on the forts." Log times, as is not unusual in such circumstances, vary. The *Princess Charlotte's* log states that she anchored close astern of the *Powerful* at 2.10 p.m., and that firing became general five minutes later. The control of fire was regulated by spotting officers—mates and midshipmen—aloft. Meanwhile, the second division, under the orders of Captain Collier,⁹ had taken up their assigned stations opposite the southern batteries and had opened fire, in which they were ably supported by the Turkish flagship and a cutter and by the two Austrian frigates and a corvette under Admiral Bandiera.¹⁰ The four steamers remained under way and took up bombarding positions as requisite.¹¹

The Egyptians replied to the bombardment with spirit; but as the ships of the northern division had anchored inside the shoal and the defenders had built up the lower part of the embrasures for increased protection, the latter could not depress their guns sufficiently, and most of their shot that hit only caused damage aloft.

The Commander-in-Chief, seeing that there was room ahead of the *Powerful*, made a signal to the *Thunderer* to weigh; but she was so jammed in between the *Princess Charlotte* and the *Bellerophon* that it was impossible for her to get clear. By this time the ships were being cut up aloft, and Napier thought that it was only a question of time before the enemy found the correct elevation for his guns. He therefore ordered the *Revenge* to anchor ahead of him, which Captain Waldegrave did at 3.30 p.m. and was then able to join in the bombardment.

At about 4.20 p.m., the main magazine in the fortress blew up, killing between 1,200 and 2,000 persons, demolishing the town and materially damaging the fortifications. Notwithstanding this disaster, the enemy still kept up his fire, which was not finally silenced until shortly before sunset, when the Commander-in-Chief made the

⁹ *Castor*, *Benbow*, *Edinburgh*, *Carysfort*, *Talbot*, *Wasp*, *Hazard*.

¹⁰ *Medea*, *Guerriera*, *Lipsia*.

¹¹ *Phoenix*, *Gorgon*, *Vesuvius*, *Stromboli*.

signal to cease firing. The *Powerful*, however, still continued firing for some time longer—Napier's reason being to discourage the enemy from re-manning his guns—until an officer was sent to order her withdrawal. Some of the ships came out, the *Powerful*, with a badly wounded main topmast, being taken in tow by the *Gorgon*; the rest, including all those of the southern division, stayed where they were, which probably contributed towards the decision by the Governor of Acre to abandon the place, which he did during the night.

Early next morning the troops were landed, and at 6 a.m. the Turkish flag was hoisted over the fortress. Desolation in the town was widespread and many wounded men were found lying where they had fallen; but to their sufferings the Turks were mainly indifferent, and not a few must have died for want of attention. Besides the large number that perished in the explosion of the main magazine, 300 men were killed on the ramparts. Over 3,000 prisoners were taken, including those who came in and surrendered. The ordnance captured amounted to 377 guns of various types and sizes, not all of which were mounted; in addition, 14,500 muskets were taken possession of, as well as a large quantity of stores.

In this short-range bombardment the Allied casualties were surprisingly light. In all, 17 men were killed and 36 were wounded; Lieutenant Bulkeley George Le Mesurier (*Talbot*) was mortally wounded and five other officers were slightly wounded, though no officer was killed outright. In nine of the ships no one was hurt. Smouldering rubbish from the big explosion was inevitable, and before all of it could be rendered innocuous another magazine blew up. This happened at about 2 p.m. on the 6th, when a marine of the *Benbow* was killed, Captain Collier had his leg broken, and several others were also hurt.

Those ships which had been crippled aloft were now sent away to refit; the others were employed in transferring prisoners and generally maintaining the blockade along the coast. Meanwhile the Turkish troops, under Selim Pasha, were left in charge of Acre, together with about 250 marines under Lieutenant-Colonel William Walker, R.M., and under the protection of the *Pique* and *Stromboli*.

It will have been seen that Commodore Napier did not anchor in the position ordered by the Commander-in-Chief, which gave rise to some unpleasantness afterwards between these two officers. The matter, however, was eventually settled amicably, and what was really no more than a storm in a teacup subsided.

The technique of sea bombardments has undergone many changes since the days of smooth-bore guns and black powder. When comparing the characteristics of the smooth-bore gun with its modern counterpart, it may be noted that the former possessed one advantage in that it was possible to use the same shot a second time. This is borne out by the following entry in the *Pique's* log for 5th November, 1840:—"Picked up on shore and taken on charge Shot, Round, 68-pr., 18 No.; 32-pr., 290 No.; and taken by the Gunner as a voluntary charge." In 1840, the gun itself was much the same as it had been for the past hundred years, though the method of firing it had been progressively improved since the days of the linstock or, in lieu of anything better, flashing a pistol at the vent, as had to be done on the Great Lakes in 1813. The explosive shell—then a spherical projectile—was coming more and more into general use; and whereas it had been used chiefly in the mortars of the old bomb-ketches, the outfit for the larger calibre guns of the main broadside armament, in 1840, contained a proportion of shells to augment the normal solid shot. The

effective bombarding range of the guns of that day still remained at little more than point blank, and at Acre the ships anchored about 800 yards from the fortress.

With the capture of Acre offensive naval operations ceased, though the blockade of Egyptian ports was not finally lifted by order of the Sultan until 9th December, 1840. The Egyptian garrisons at Haifa and Jaffa immediately evacuated these places and tried to force a passage through Palestine back to Egypt, but they were attacked by the Syrian insurgents and those that escaped retreated to Acre, where they surrendered as prisoners of war. Those Syrian tribes which had hitherto supported the Pasha of Egypt now declared in favour of the Sultan.

On 15th November, Commodore Napier sailed for Alexandria, where he arrived on the 21st and found off the port the *Revenge*, *Ganges*, 84 (Captain Barrington Reynolds), *Rodney*, 92 (Captain Robert Maunsell), *Vanguard*, 80 (Captain Sir David Dunn), *Carysfort* and *Medea* str., 4 (Commander Frederick Warden). He then, on his own responsibility, concluded a convention with Mehemet Ali. This was signed on the 27th, the Pasha engaging to order Ibrahim Pasha forthwith to evacuate Syria; he also engaged to restore the Ottoman fleet as soon as he received official notification that the Sublime Porte granted him the hereditary government of Egypt.¹² Napier, on his part, agreed to suspend hostilities against Alexandria or any other part of Egypt, and to permit free passage through Syria to the remains of Ibrahim's army.

But this was not the end of the matter, for the Porte declined to cancel the deposition of Mehemet Ali (referred to earlier), and Admiral Stopford refused to ratify the convention on the ground that Napier had exceeded his instructions. Sir Charles Smith, also, was in disagreement with the terms of the convention and the manner in which it had been entered into. Lord Ponsonby, the British Ambassador at Constantinople, who had a rooted dislike of Mehemet Ali, was no less emphatic in his views on the subject. In fact, it was a case of "everyone being out of step except our Jock." The British Government, however, approved, with a few minor modifications, the steps taken by Commodore Napier, though the settlement of the Eastern Question of that time was not finally concluded until June, 1841.

It must be remembered that, in 1840, there was no wireless communication, nor was there even a land telegraph service. Between September and December events moved rapidly and it was not possible for the home Government, or any of the other three Great Powers, to be fully conversant with the state of affairs at any given moment. Letters between England and the Commander-in-Chief often crossed, rendering the earlier instructions from home out of date with regard to the actual situation by the time they were received.

Recognition by the Admiralty of the successful conclusion of these operations was immediately forthcoming, and 99 promotions were made in compliment thereof. These promotions, as well as the award of honours to the senior officers, were confined to the officers in those ships which had been in action with the enemy. Those for officers who were present at the capture of Acre were dated as from 4th November; most of the others were dated a day later, though, as already mentioned, four promotions were announced for the capture of Sidon, being dated 28th September. Space does not permit giving the complete nominal list, and all that can be done here is to show the numbers of each rank promoted. These are as follows:—

¹² The Turkish fleet was restored on 11th January, 1841.

Rank	Number
Commander to Captain ...	14
Lieutenant to Commander ...	24
Mate to Lieutenant ...	45
Second Master to Master...	11
Assistant Surgeon to Surgeon ...	5
	—
	99
	—

The above numbers include a few officers who had not yet served the minimum time to qualify them for promotion, or who, as in the case of six of the second masters, had still to pass the necessary examination. The dates of promotion of these officers are accordingly later.

The services of the senior officers were recognized by the award of the C.B., twelve captains (eleven of whom were present at Acre) and the senior Royal Marine officer, Lieutenant-Colonel Walker, being so decorated. Colonel Walker, however, had unfortunately died in Syria on 8th December, ten days before the awards were notified. Commodore Napier was made a K.C.B. In addition, there were four honorary awards of the Order, dated 12th January, 1841, viz. :—

Hon. K.C.B.—Rear-Admiral Baldwin Wake Walker Bey (Captain, R.N.) ; Rear-Admiral Franz, Baron Bandiera (*Medea*).

Hon. C.B.—Captain H.I.H. the Archduke Friedrich (*Guerriera*) ; Commander Johann von Buratovich (*Medea*).

Finally, in 1848, the services of all those who took part were recognized by the award of the last clasp to be issued with the General Service Medal (Navy), 1793–1840. The clasp is inscribed SYRIA. This was one of the N.G.S. medal clasps to which certain army officers and other ranks were entitled. Out of the 13 officers and 88 other ranks who were present and were borne on the books of H.M. Ships, the names of all the officers and of 60 other ranks will be found in the Admiralty Medal Roll.¹³

The complete list of ships which qualified for the medal can be found in the various books on medals. It will be seen that some of the ships do not appear in this narrative. This is because they are not mentioned in any of the reports of proceedings as having been engaged with the enemy. Being in the area between the terminal dates—those of the declared blockade—was sufficient to qualify them for the medal. The classic case was that of the *Hecate* str., 4 (Commander James Hamilton Ward), which was still at Sheerness on 3rd November, the day on which Acre was bombarded. She arrived out in the Levant just in time to qualify for the medal.

Offensive naval operations on the coast of Syria did not last for more than eight weeks, during which time the total British casualties cannot be termed severe. They comprised :—

Killed : 2 officers, 31 men.

Wounded : 9 (1 mortally) officers, 108 men.

It is evident from the foregoing that, without the presence on the spot of a British fleet, the international political decisions of the time could not have been implemented.

¹³ *Journal of the Society for Army Historical Research*, Vol. XVIII, No. 70, pp. 112–3.

THE CASE FOR PLANNED MASS MIGRATION FROM BRITAIN TO THE DOMINIONS

By SQUADRON LEADER W. J. SWIFT, R.A.F.

GONE are the days of Britain's industrial and trading supremacy, the halcyon days of the XIXth Century, when food and raw materials could be bought plentifully and cheaply abroad and paid for with British manufactures, for which there was an insatiable demand. Gone, too, are the days when Britain's island position provided immunity from the horrors and spoliation of war.

World conditions have altered immeasurably during the last half century, but the British outlook and methods have not advanced at a corresponding pace. Our strategic and economic thinking and planning is still that of a would-be XIXth Century Power. If we are to survive as an influence in the world—indeed, if we are to survive at all—there must be a radical change in the traditional conception of our role and a rapid re-deployment of our resources.

Other great nations and empires have existed; they have dominated their eras; but their epitaphs have been written. We must strive to avoid a verdict of history which might read:—"Britain had her short period of power and glory. With her empire she possessed an abundance of economic and strategic resources, but she failed to make proper use of them. Her decline and fall can be traced to her refusal to face the realities of the time. In her death-throes she was magnificent, but her demise was none-the-less complete, utter, and final."

Our aim must be to bring about a state of affairs in which British people can continue to exist. Moreover, we must aim at a high standard of living. A standard of living, however, is not something which can be demanded or arbitrarily established, or to which a nation or individual has an inalienable right. It is merely what a nation's, like an individual's, economic circumstances permit. But, for a nation to be an influence in the world, able to contribute to the arts and culture of civilization, able to exploit its inventiveness and maintain that elasticity of economy which permits of extra effort in an emergency, it is important that the standard of living should not be allowed to fall below a certain minimum.

The purpose of this brief paper is to show that, if we carry on as we have done during the first half of the XXth Century, not only a continual lowering of the standard of living, but complete economic collapse, is inevitable; that annihilation in war is possible; and that the only practical method of avoiding this dire fate is to embark on a scheme of planned mass migration from Britain to the Dominions.

BRITAIN'S PRECARIOUS POSITION

If Britain were to be involved in a major war in the foreseeable future, her vulnerability is indisputable and needs little elaboration. Let us face the facts realistically. The only serious risk on the present horizon lies in a clash with Soviet Russia. Britain's role would be that of an advanced base—a bastion on which 50 million people are huddled together. With this density of population and huge concentration of industry, the potentialities of atomic bombing and other methods of mass destruction make Britain the most vulnerable target in the world. "With ruthless candour, American Defence Memoranda have described Britain as America's shock absorber in another war. The position of a shock absorber in the atomic and

rocket age is a fatal one" says Liddell Hart.¹ Conventional weapons may well be just as fatal. If Britain's life-lines were severed, either by neutralization of her ports or strangulation of her trade routes, she would be capable of resisting only so long as her stock-piles of food lasted. These life-lines were nearly severed by German U-boats in the last two wars. Admiral Fechteler has recently stated that Russia has at least six times as many U-boats as Germany had in 1939, and that they are more modern and deadly than any used in the last war. British morale might be unsurpassed, but even heroes cannot fight on empty bellies.

It will be seen, then, that if affairs are allowed to continue as they are, Britain will stand in real danger of an early knock-out or eventual starvation in the event of war. It must be remembered, too, that Britain is not only the centre of a world-wide empire, but she contains two-thirds of the Commonwealth's white population and most of its industrial capacity. A war would, therefore, not only spell the ruin of Britain: it could mean the end of the Commonwealth and Empire as an independent community of nations.

The question to be asked is not whether war is probable or imminent, but whether the world situation is so safe and stable as to rule out its possibility in the foreseeable future. If war is even remotely possible, then it would be criminally reckless to neglect any available means of safeguarding the survival of the British people.

The economic argument, though less obvious, is equally cogent. Changing world conditions, accentuated by two world wars with their resulting economic dislocation, the loss of overseas markets and investments, and the piling up of sterling balances, have so reduced Britain's wealth that, from being the world's greatest creditor nation, she is now the largest debtor nation.

Britain has 50 million mouths to feed. Experts estimate that with the most advanced methods of farming, development of marginal land, and intensive use of fertilizers, only sufficient food can be home-produced to feed a maximum of 30 million people. The other 40 per cent. of food requirements, together with many of the raw materials for industry, have to be imported. And they have to be paid for. However adverse the terms of trade, Britain must, therefore, export or perish.

Britain can, however, only offer manufactured goods to the world. This sufficed in the XIXth Century, when there was an eager market for such goods. Now, when Britain's industrial lead has been outstripped by other nations, when the ever-growing industrialization of overseas countries has produced a contraction of her traditional markets, her products are not so readily saleable. The real prices obtainable (i.e. after adjustment to the depreciated value of the pound sterling) have accordingly declined. This process will inevitably continue. It is not, therefore, merely greater production that Britain needs: it is, and this is the crux of the matter, greater production at lower cost. However, as a corollary to increased overseas industrial production, world demand for raw materials, and incidentally for food, has increased and will continue to do so. The cost of importing these commodities will, therefore, inevitably continue to rise. The higher cost of food will result in further wage increases, and these, together with the higher cost of raw materials, will make our products even more expensive, and, consequently, even less marketable. The adverse balance of trade will, therefore, continue to widen and further devaluation of the pound sterling will follow. The more the pound is devalued the greater will the value of British exports have to be to adjust the trade balance. But to where can these products be exported? It becomes an endless

¹ *Defence of the West*, p. 93.

circle, or rather a descending spiral, in which further tightening of the belt and continued lowering of the standard of living is inevitable.

This trend in our economic affairs is already abundantly evident. The demand for British manufactures has been artificially high during the past few years as a result of the markets being temporarily starved during the war. In spite of this, and of our unprecedented concentration on exports in order to take maximum advantage of the seller's market, the gap between the values of exports and imports has not, however, been bridged. The seller's market is now drying up. The first to feel the impact has been the textile industry, but others, particularly the light engineering industries, will sooner or later follow the same pattern.

The inescapable fact is that we are over-populated and, so long as we attempt to maintain a population of 50 million people by our traditional method of trade and industry, we will be 'batting on an increasingly sticky wicket.' To carry on in this way will eventually bring ruin, poverty, and starvation. Our weakened economy may be revived by injections of aid from America, but these injections would have to be administered in ever increasing size and frequency, and there is, no doubt, a limit even to America's bounty.

In a period such as the present, with an uneasy peace and an ever-present possibility of war, the Country's economy is obviously under an even greater strain. The larger the proportion of the national effort devoted to defence and other non-productive activities, the less there is available to pay our way. Impoverishment and the lowering of the standard of living is thus accelerated.

The precariousness of Britain's present position cannot be denied. Her eventual fate is also apparent, unless timely and far-reaching action is taken.

DEVELOPMENT OF THE COMMONWEALTH

It must be recognized that every country has what is termed an "optimum population," i.e. the number above which the law of diminishing returns operates. As the preceding paragraphs have shown, it is the necessity to maintain by uneconomical means the 40 per cent. of the population over and above the food producing capacity of the Country which is the cause of Britain's economic disequilibrium. The optimum population of Britain is, therefore, 30 million. In war the existence of the extra 20 million people is a liability because of their vulnerability to possible starvation, while the accompanying excessive concentration of vital industries in an exposed front line position is a fatal weakness to our defence organization.

Now, let us remember that we are fortunate enough to have, in our hour of need, huge ready-made Dominions, substantially British in outlook, existing so far on little more than a care and maintenance basis, anxious and able to receive between them well over the 20 million surplus British people. Herein, surely, lies the key to our future.

We should develop the Commonwealth through the medium of the people now living in Britain; we should embark on a scheme of planned mass migration; transplant 20 million Britons overseas, complete with capital equipment. The Commonwealth countries which, it is visualized, would mainly absorb this population are Canada, Australia, New Zealand, South Africa, and the highland areas of central Africa (which include Southern Rhodesia, Northern Rhodesia, Tanganyika, Kenya, and Uganda). These countries are climatically suitable for permanent European settlement and have the mineral and agricultural potential requisite for large scale development.

This project does not by any means imply 'writing off' or abandoning Britain. On the contrary, it means making her more defensible. It means utilizing the strategic depth which the Empire affords, and putting into effect on a national scale a security measure that is accepted in a military sense—the dispersal of vital points. And surely the British people and their industrial potential are the most vital assets we possess! It means, in the event of war, avoiding high casualties or mass starvation; avoiding the dissipation of effort required in manning and defending numerous food convoys; reducing the huge non-productive effort of civil defence; and it means building up our arsenals in less vulnerable areas remote from the front line.

The Commonwealth has enormous potential wealth. Almost every raw material can be found within its bounds; properly developed, it can be self-supporting—and more than self-supporting—in foodstuffs. But to develop their resources these vast lands must have people—millions of people. Mass migration means taking the mouths to the sources of food, and the skilled hands to the raw materials. This would reduce the costs of production, obviate Britain's complete dependence on international trade and, incidentally, by building up not only the populations but the industrial capacity of the underpopulated and coveted areas of the Empire, it would render them more defensible against any would-be aggressor.

It will have been noticed that the arguments that have been developed for mass migration are two-fold—economic and strategic, both of which are, of course, interdependent. Many other advantages—the solving of Britain's housing problem, the abolition of our squalid XIXth Century slum properties, the improved health of a people enabled to live in less congested areas, etc.—will immediately spring to the mind. And, most important, such a migration would create a new sense of homogeneity within the Commonwealth, a renaissance, a new era of vigorous development. It would, in fact, give the British Commonwealth and Empire a new lease of life.

Each of the Dominions is desperately anxious to increase its population; and each, with the possible exception of South Africa, wants British men and women if it can get them. But they want young people, and in particular, artisans, skilled manual workers, engineers, and builders. It is this class and age of people, which Britain, under existing conditions, is least able to spare, and consequently there has been little official encouragement for emigration. Only 170,000 persons emigrated during 1951, and the small trickle of Britons entering Canada during that year was exceeded by the number of immigrants from Germany. Australia has accepted half a million immigrants since the end of the 1939-45 War, yet less than half have come from Britain. The increasing economic stringency envisaged in Britain, however, will be likely to give an impetus to the flow of emigrants; but, unless emigration is planned, it will be young people—those most capable of uprooting and transplanting themselves—who will leave these shores in ever increasing numbers.

Naturally, Britain cannot allow herself to be emasculated and enfeebled by losing all her younger and most productive people, and being left with only an aged or ageing population. To prohibit emigration by legislation, however, would be equally short-sighted; for the Dominions must increase their populations, and, as the post-war trends have shown, if they cannot get immigrants from Britain, they will get them from elsewhere. This could eventually alter completely the population structure of these Dominions, and we might, in due course, find our heritage of Empire dissolving before our eyes into independent republics.

A new conception of migration policy must, therefore, be worked out in full

consultation with the Dominions. This would have as its basis the transference of whole communities, complete industries together with all their movable capital equipment and attendant services, cross-sections of the British population, the young and the old, the doctors and shopkeepers as well as the factory workers and builders. It would mean the transferring of a portion of the national debt as well as international debts; but the Dominions, even though they would have to bear a large proportion of the cost of the move, would gain immeasurably on the deal. Hodson (*Twentieth Century Empire*) estimates that the value to the state of an adult citizen is not less than £1,000, representing the cost of educational and social services that have been provided to bring him to productive maturity. Experts have also calculated that the value of capital equipment necessarily transferred would not be less than £1,000 per head. A migration on the lines indicated would, therefore, represent an unrequited export from Britain of several thousand million pounds sterling. "A man, who is giving away stocks and shares to his sons and daughters, can legitimately expect them to pay the brokerage and transfer fees." (Hodson.) It is not suggested for one moment that a profit and loss account should be kept of these transactions: the figures merely serve to illustrate a point of relative loss and gain, and might be considered in writing off any debts or sterling balances.

SOME OF THE PROBLEMS TO BE SOLVED

The conception of migration on this scale is gigantic in its implications. The practical difficulties and social obstacles are enormous, the prejudices deep-rooted; but, given the will, combined with careful planning and wise leadership, they can be overcome.

How many years would it take to accomplish such a project? The immediate bottlenecks would probably be transport, housing, and factory erection. These are the factors which would determine the rate of migration. It may, for example, be contended that, given the determination, 20 million people could be transported overseas, housed, and provided with jobs in 10 years—an average of two million people, or 400,000 families, per year.

In support of this contention it might be pointed out that the Russians achieved as much when, under the threat of approaching occupation in 1941/42, they moved their industries, complete with workers, eastwards to the Urals; that well over the above quoted number were transported annually to the various war theatres and home again during the period 1944-46. If this could be done under the compelling needs of war, with all the difficulties and hazards of wartime transport and with the competing needs for the movement of huge quantities of munitions, are there any reasons why it could not be achieved in peace-time? Perhaps there are.

According to a naval expert's estimate, a thousand ships would be required to move one million people per year and two thousand more would be needed to transport the supporting capital equipment. This is a very sobering consideration. Could we afford to tie up six thousand ships a year, even if we had so many, on an uneconomic one-way traffic? Obviously, we could not. But let us not overlook the very great contribution that could be made by air transport. It is reported that more people crossed the Atlantic last year by air than by sea. During the year ending 31st March, 1952, United Kingdom airlines alone flew well over a thousand million passenger miles—and this was achieved with an overall load factor of only 65 per cent. of their capacity.² These figures speak for themselves and the future of civil air

² Ministry of Civil Aviation: *Operating and Traffic Statistics of United Kingdom Airways Corporations*.

transport holds even greater promise. Nevertheless, the expert's estimate does serve to put the magnitude of the project into perspective.

As far as homes are concerned, on the 10 years target, it could be argued that the building of 400,000 houses per year would represent only a 33 per cent. increase on what the British Government considers to be a practicable target in Britain alone. As Hodson says³: "Is it not common sense to ask why these units [the new satellite townships] should be set down in Hertfordshire or Surrey, when they might as well be set down in Cape Province or Queensland? The cost would be no more—probably less; for any extra cost of providing long distance transport or the like in virgin territory would be more than balanced by the losses wastefully incurred in Britain through the destruction or conversion to other uses of existing buildings and developed land. A New Towns plan ought surely to be an Empire-wide plan." With all the additional resources of manpower and materials, particularly timber, in the Commonwealth, can it be reasonably doubted that the extra 100,000 houses per year could be built? The answer is, of course, that they probably could be built; but what of the competing requirements on the building industry for the erection of factories, schools, and other public services?

These are only a sample of the factors that would have to be very carefully considered. On balance it would appear that to attempt to complete such a project in 10 years would be extremely optimistic. A 20-year or even 30-year plan would be more realistic. But, whatever the time factor, the principle remains unaltered: every factory and every family transferred from Britain to the Dominions represents an accession of strength to the Commonwealth as a whole and a reduction of the economic liability in peace and strategic liability in war which is Britain's existing unhappy portion. The more rapidly the project is executed, the more quickly will strategic strength and economic health be restored. The sights must be set high and the same vigour and confidence, the same sense of urgency and purpose, that characterized our war-time activities must be kindled.

Propaganda and careful education of the people would be required, so as, on the one hand, to overcome, without presenting even a semblance of forced deportation, a possible reluctance to leave Britain; and, on the other hand, to dispel any belief that a new heaven and a new earth await overseas. A new era of prosperity could be created, but it would need much hard work. Surely, however, if our survival, and the survival of our children, depends on hard work, this would not be stinted. The Empire, which our forefathers founded for us, was not built on a forty-hour week!

There are, of course, countless other difficulties, as well as many objections to the proposals herein propounded. Most of the objections can be answered by merely posing the question: "What is the alternative?"

There is, however, one objection voiced by many sincere and thoughtful men, which, in view of its apparent logic, deserves to be answered here. While in general agreement with the idea of mass migration, they have misgivings on the grounds that the present time is not propitious. "We are committed to European defence," they say; "the dispersion of population and arms manufacturing capital equipment at this time would seriously disrupt our defence build-up." It is submitted, in reply, that this argument gives rise to what may prove to be a specious delusion—a belief that war can be avoided by our re-armament. This may, of course, be true; but to accept such a deduction as a certainty is to stake our whole future on an unsub-

³ *Twentieth Century Empire*, p. 116.

stantiated theory. The partial dislocation of an only partly mobilized peacetime defence economy would not be nearly so fatal as the probable total destruction of a complete war economy at the time of greatest need. Weapons of mass destruction have made positive defence more difficult: dispersal is, therefore, of greater importance and urgency. Every piece of arms-making capital equipment moved from the front line to the hinter-land of the Empire reduces the vulnerability of the Commonwealth arsenal. Furthermore, as has been shown, the rapid re-deployment of our economic resources is essential before the inexorable march of world events brings about national bankruptcy. Surely, Britain's present acute dilemma and the fatal consequences of a 'carry-on-as-we-have-been' policy are too real to permit of any dallying or procrastination.

CONCLUSION

It is, of course, beyond the scope of this paper to provide a blue-print for the redistribution of population and industry throughout the Commonwealth. All that has been attempted is to establish a *prima-facie* case that (a) on such redistribution depends the survival of Britain and the British way of life, and (b) the migration of 20 million souls and the transfer of selected industries from Britain to the Commonwealth is capable of attainment.

Mass migration is not a panacea for all our troubles, but it would render Britain and the Commonwealth as a whole stronger and more defensible, thus enabling us to follow a firmer line in the councils of the world. Such a migration would permit the present disjointed economy to be resuscitated and developed on a planned and balanced basis, self-supporting within the Empire and, therefore, independent of either dollars or the trading whims of foreign countries.

Time is against us and speedy decisions are called for. The sands of economic survival are running out; the sands of national defensibility and physical survival may also be running out. Immediate action is wanted—vigorous, clear-sighted, and determined action. Time waits for no man; nor does it give a nation a second chance.

DIARY OF THE WAR IN KOREA¹

16th July.—At Panmunjom, the adjournment of meetings of truce delegates was extended for two more days at the enemy's request. A local attack by North Koreans near Kumsong was repulsed.

17th July.—No event of importance was reported.

18th July.—Secret sessions at Panmunjom were resumed. It was reported that the Indian Government might be willing to mediate and assist in connection with the prisoner of war deadlock.

19th and 20th July.—Two meetings in secret session were held at Panmunjom.

21st July.—At Panmunjom, the secret session lasted only 20 minutes. U.N. troops captured a hill position West of Chorwon but were driven back in a subsequent counter-attack by Chinese troops. Fighter-bombers and light bombers attacked enemy supply centres, front-line trenches, and other military targets. Two railway bridges South of Wonsan were blown up.

22nd July.—Fighter-bombers attacked a railway repair centre and a cement factory in the Pyongyang area. The truce negotiators met at Panmunjom for only five minutes.

23rd July.—Allied fighter-bombers attacked a troop and supply centre 10 miles South of Wonsan and caused considerable damage despite intense anti-aircraft fire. Bombers also attacked enemy positions around the hill West of Chorwon, the scene of heavy recent fighting. The U.S. battleship *Iowa* destroyed enemy gun positions in the Kosong area at the eastern end of the front. British aircraft from the carrier *Ocean* attacked electric power plants North and West of Haeju and destroyed a transformer station South-East of Chinnampo. H.M. Ships *Newcastle* and *Mounts Bay* attacked enemy shore batteries on the West coast with rockets.

24th July.—No event of importance was reported.

25th July.—The enemy delegates at Panmunjom asked for a cessation of secret meetings. A French battalion repulsed an attack by Chinese troops near Chorwon.

26th July.—The Allied delegates to the armistice conference broke off the meetings for a week, after hearing General Nam Il denounce in open session the Allied proposal for an exchange of prisoners, and after he made charges of wanton bombing and strafing by Allied aircraft. At the enemy request staff officers of both sides would continue to hold daily meetings.

27th July.—No event of importance was reported.

28th July.—MIG jet fighters attacked British carrier-based aircraft which were bombing enemy supply and troop concentrations South and West of Chinnampo. Three Fireflies were damaged.

Major-General S. N. Shoosmith was appointed a deputy Chief of Staff to General Mark Clark.

The 1st British Commonwealth Division observed the first anniversary of its formation in positions on the Korean battlefield.

29th July.—No event of importance was reported.

30th July.—Sixty-six Superfortresses dropped 600 tons of bombs by radar during the night on a North Korean metal factory 10 miles South-East of Sinuiju.

31st July.—No event of importance was reported.

1st August.—Allied troops captured a hill West of Chorwon. Three MIGs were shot down and three damaged by U.S. Sabre jets just South of the Yalu river.

2nd and 3rd August.—Senior representatives met at Panmunjom, but no progress resulted and a further recess for a week was agreed upon. Land fighting was restricted

¹ A sketch-map of Korea faces page 590.

to brief encounters near Yongchon. U.S. carrier aircraft bombed a power plant at Chongjin.

4th August.—At Panmunjom, staff officers reached agreement on several minor points of phrasing of the proposed armistice draft, but the differences over the problem of repatriation of prisoners remained unsolved.

Fighter-bombers flew nearly 300 sorties against a North Korean headquarters North-East of Pyongyang. Two intercepting MIGs were destroyed.

The 1st Battalion, The Royal Fusiliers, arrived at Pusan from England.

5th August.—In the truce talks by staff officers, final agreement was reached on the wording for the armistice draft and the meetings were suspended to allow interpreters to work on the draft.

H.M.S. *Belfast* was hit by a shell fired by a shore battery and sustained superficial damage. Four MIGs were shot down and six others damaged in encounters over the line Haeju-Sariwon.

6th August.—Allied bombers attacked targets in North-central Korea. Six MIGs were shot down. The explosion of a jet fighter in the hangar deck of the U.S. carrier *Boxer* caused the death of nine men and injured 75; 12 other aircraft were set on fire.

7th August.—Chinese troops captured a hill from South Koreans in the central sector, after a very heavy artillery and mortar barrage. Subsequently, the South Koreans counter-attacked and retook the position. Four MIGs were shot down and five others damaged.

8th August.—U.N. air forces attacked targets in an area 45 miles South-East of Pyongyang. Three MIGs were shot down.

9th and 10th August.—After very heavy artillery preparation the enemy attacked South Korean positions in the central sector without success. British naval pilots flying propeller-driven Sea Furies shot down one MIG and damaged three others; two Sea Furies were damaged.

11th August.—The truce negotiators met in plenary session for 35 minutes after a week's recess. When General Nam Il had made it clear that there was no change on the question of prisoner repatriation, the Allies asked for a further week's recession and the talks were adjourned until 19th August.

A hill in the western sector changed hands three times in a few hours and was finally retaken by U.S. forces after severe fighting. British Sea Furies destroyed one MIG and drove off seven others near Chinnampo. Allied bombers attacked a chemical plant and troop concentrations on the East coast.

12th August.—U.S. Marines captured a hill five miles East of Panmunjom, and later repelled a counter-attack. It was reported that a British frigate had been hit by an enemy shore battery.

The 1st Battalion, King's Own Scottish Borderers, sailed from Pusan for England after nearly 16 months' service in Korea.

13th August.—U.S. Marines repulsed a further counter-attack against the hill captured by them on 12th August.

14th August.—Major-General Harrison, leader of the Allied armistice delegation, sent a written protest to General Nam Il pointing out that failure to provide information on movement of prisoner of war camps endangered prisoners' lives.

15th August.—Fighting continued in the area East of Panmunjom.

16th and 17th August.—No event of importance was reported.

18th August.—Protests against Allied flights over the Panmunjom area were made by enemy liaison officers.

19th August.—In the resumed armistice discussions at Panmunjom there was no break in the deadlock over the return of prisoners of war, and the conference was again

adjourned for a week. U.S. Superfortresses bombed an enemy munitions plant near the Yalu river.

20th August.—No event of importance was reported.

21st August.—Targets in the Pyongyang area were bombed by Superfortresses after advance notice of the attack had been given by leaflet and wireless. The U.S. destroyer-minesweeper *Thompson* was hit by shells from an enemy shore battery off the East coast.

22nd August.—No event of importance was reported.

23rd August.—No event of importance was reported.

24th August.—Superfortresses attacked a large enemy supply centre at Anju.

25th August.—Chinese Nationalist guerrillas were reported to have made a successful raid on the Chinese port of Kingchenwei, 250 miles South of Shanghai, and to have returned to Formosa with 125 prisoners.

26th August.—It was reported that during the past fortnight one enemy prisoner was killed and several others wounded by riot gun pellets during the suppression of demonstrations on Koje Island, when camp guards were attacked with stones. The conference camp at Panmunjom was washed away by heavy rains and had to be re-erected on higher ground.

27th August.—At Panmunjom, General Nam Il accused the Allies of slaughter of prisoners of war.

28th August.—U.S. carrier-based aircraft attacked a hydro-electric plant in North-East Korea and disrupted repair work. Heavy anti-aircraft fire was encountered.

29th August.—Allied aircraft attacked targets in the Pyongyang area; 1,403 sorties were made. It was reported that six riots by prisoners of war, in which military intervention was necessary, had occurred on Koje and Cheju islands during the month.

30th and 31st August.—U.S. Sabre jets were reported to have destroyed six MIGs and damaged 11 others in engagements over North Korea. Superfortresses attacked targets in the Pyongyang area.

1st September.—Allied carrier-based aircraft attacked an oil refinery and an iron mine in North Korea near the boundary and, later, raided the port of Chongjin, which was shelled at the same time from the sea.

2nd September.—A force of Allied light bombers made a night attack on a port on the East coast of Korea. General Nam Il continued to protest about "barbarous treatment" of prisoners of war.

3rd September.—It was reported that 753 Allied aircraft (700 American) had been lost during the war. Of these 83 were lost in air combat and 563 were brought down by ground fire. Enemy losses were put at 1,318, but this figure included 620 damaged and about 100 probably destroyed. A later statement from Tokyo put the total Allied losses at 1,572, which presumably included non-operational losses.

4th September.—At Panmunjom, the truce delegates met for half an hour without result, and the talks were adjourned until 12th September. U.S. jet fighters shot down 12 MIGs for the loss of at least one Sabre jet.

Major-General Alston-Roberts-West arrived in Korea to take over the British Commonwealth Division from Major-General Cassels.

5th September.—Chinese troops made several unsuccessful attacks on a hill position in the western sector and suffered considerable casualties. U.S. Sabre jets destroyed three MIGs, probably destroyed one other, and damaged three more when escorting Australian and U.S. bombers in a raid on a target in the Hamhung area.

6th and 7th September.—Enemy attacks in the eastern, central, and western sectors were repulsed after hand-to-hand fighting and counter-attacks in the eastern and central sectors. Australian and U.S. marine aircraft destroyed a North Korean corps headquarters North of Wonsan, and Superfortresses bombed a supply centre in the Pyongyang

area. U.S. Sabre jets shot down two MIGs. Seven U.N. aircraft were lost during the week.

Major-General Cassels left Korea on 7th September, after having handed over to Major-General Alston-Roberts-West.

8th September.—Several enemy probing attacks were made all along the front. U.N. forces fell back at one or two points but regained most of the lost ground in counter-attacks. U.S. Sabre jets shot down two MIGs.

9th September.—Fighting for a hill position in the central sector, South Koreans, after capturing the crest, were forced to withdraw slightly by heavy artillery and mortar fire. Seven MIGs were shot down and others were damaged by Sabre jets which were escorting bombers during a raid on an enemy military school area at Sakchu.

10th September.—South Korean troops recaptured the hill position in the central sector and held their gains when counter-attacked. Superfortresses bombed an enemy ammunition dump on the East coast just above the 40th parallel.

11th September.—Fighting continued in the hill area in the central sector and the South Koreans retained the position. Allied fighter-bombers attacked an enemy training school near Pyongyang. One MIG was destroyed.

12th September.—The truce delegates met again at Panmunjom. No progress was made and they adjourned for a week.

13th and 14th September.—In the central sector, fighting for hill positions continued. Superfortresses dropped some 300 tons of bombs on the Suiho power plant where repair work had been carried out since the previous raid in June. Three MIGs were destroyed by Allied aircraft.

15th September.—Fighting in the central sector continued between South Korean and Chinese troops, the latter being forced to withdraw from two-thirds of a hill position which they had captured. U.S. Sabre jets shot down at least nine MIGs when escorting Allied fighter-bombers which attacked industrial targets at Sinuiju.

16th September.—Three MIGs were shot down by Sabre jets which were escorting fighter-bombers during an attack on an enemy military boat concentration off the northern point of the West coast of Korea. Fighter-bombers also attacked military buildings on Haeju peninsula. Superfortresses bombed supply areas on the East coast and near Pyongyang. The U.S. destroyer *Barton* struck a mine in the Sea of Japan and sustained casualties, but despite damage was able to reach Sasebo in Japan.

17th September.—The use of guided missiles against targets in North Korea by a U.S. aircraft carrier was reported. South Korean troops recaptured a hill position in the central sector. U.S. bombers attacked supply lines between Wonsan and Pyongyang. One MIG was shot down over the Sakchu area.

18th September.—The 1st Battalion, The King's Shropshire Light Infantry left Pusan for England after more than 16 months service in Korea.

19th September.—Fighting for hill positions continued in the central sector, and in the western sector an Allied outpost was captured by the Chinese. Superfortresses bombed targets near Hamhung. Off the West coast, the U.S. destroyer *Bradford* fired at four MIGs which then retired.

20th September.—The truce delegates met at Panmunjom without result and adjourned again for a week. In the central and western sectors Allied troops repulsed two enemy attacks and recaptured a hill position.

21st September.—It was reported that nine aircraft were lost by the Allies during the week ending 20th September.

22nd September.—In the eastern sector, the enemy captured a hill South of Kumsong. Allied counter-attacks were partially successful. Four MIGs were damaged by U.S. Sabre jets.

The 1st Battalion, The Duke of Wellington's Regiment sailed from Liverpool for Korea.

23rd September.—The enemy made about 20 probing attacks along the front, but never seriously threatened penetration anywhere. Allied light and fighter-bombers attacked roads, supply stations, and gun positions, and destroyed 160 lorries. Superfortresses bombed a supply area eight miles North of Pyongyang.

The 1st Battalion, The Argyll and Sutherland Highlanders arrived in Scotland from Korea.

24th September.—Endeavours by enemy troops to capture a hill in the eastern sector were unsuccessful. In the western sector, an Allied attempt to recapture a hill position failed after hard fighting. General Mark Clark flew from Tokyo to Seoul for a conference with General Van Fleet.

25th September.—Chinese troops captured a hill West of Chorwon. After a short tour of the front, General Mark Clark returned to Tokyo.

26th September.—Enemy probing attacks in the eastern sector were repulsed. Sabre jets shot down four MIG-15s and damaged three others. Allied aircraft bombed targets North-West of Pyongyang, destroyed 70 supply lorries, and attacked a troop and supply concentration East of Sariwon.

27th September.—At Panmunjom, the U.N. delegation put forward new proposals for the return of prisoners of war. While maintaining the principle of "no enforced repatriation" they offered the enemy the utmost latitude to secure the return of the maximum number of prisoners.

General Mark Clark announced the establishment of a sea defence zone around the Korean peninsula, inside which any ship would be subject to search regardless of nationality.

28th September.—In the western sector Greek troops captured a hill from the Chinese, but after repelling three counter-attacks had to withdraw.

The 1st Battalion, The Royal Norfolk Regiment, left Korea for Hong Kong.

29th September.—Chinese troops made a series of attacks against South Korean advanced positions in the East-central sector and captured one hill. Allied aircraft attacked enemy installations in North Korea; two enemy fighters were destroyed and two damaged.

Peking radio reported that the enemy delegates had rejected the recent U.N. proposals for settling the prisoner of war issue.

30th September.—Enemy pressure was kept up along the East-central sector and Chinese troops captured another hill East of Kumsong. Counter-attacks by a South Korean division were launched and fighting continued. Superfortresses bombed a chemical factory close to the Yalu river.

H.M.S. *Belfast* was reported to be returning to Britain after spending 400 days in Korean waters.

1st October.—Fifty-six Chinese prisoners of war were killed and over 100 others were injured when U.S. troops were involved in quelling a riot in a prison camp on Cheju Island some distance South of Korea. Superfortresses bombed a chemical plant close to the Yalu river in North Korea. Reports were received that Russian technical troops, employed as advisers and technicians, were with the North Koreans in rear areas.

2nd October.—Sabre jets shot down one MIG-15 and damaged two others over North Korea.

3rd October.—South Korean troops recaptured a hill in the central sector. In the western sector, Chinese troops captured four allied outpost positions. Sabre jets destroyed three MIGs and damaged four others.

4th and 5th October.—In the western sector, three counter-attacks against a hill



position captured by the enemy on 3rd October were unsuccessful. A carrier-based aircraft was shot down near Hungnam in an engagement with MIGs. It was reported that nine MIGs were destroyed, one probably destroyed, and 15 damaged during the week. Allied losses were six aircraft.

6th October.—Fighting for the hill position in the western sector continued, and U.S. Marines fought their way to within 50 yards of the crest.

7th October.—Some 15,000 Chinese supported by tanks and artillery made concerted attacks along two-thirds of the front. They succeeded in capturing seven Allied hill positions in the central and western sectors, but the main effort was thrown back. The biggest attack was launched near Chorwon, and though the Chinese suffered heavily they renewed their attack in the night.

8th October.—At Panmunjom, the enemy delegates rejected the recent U.N. proposals for breaking the deadlock over prisoner of war exchanges. In consequence, at the request of the U.N. delegation, truce talks were adjourned until the enemy agree to the U.N. proposals on prisoners of war or produce reasonable counter-proposals of their own.

Chinese troops captured a hill (known as "Whitehorse" hill) North-West of Chorwon from South Koreans after heavy fighting. Superfortresses and carrier-based aircraft attacked a railway junction North-West of Wonsan.

9th October.—South Korean troops recaptured the summit of "Whitehorse" hill only to lose it again a few hours later. Heavy fighting took place at some other points along the front. U.S. Sabre jets shot down two MIGs and damaged three others over North-West Korea.

10th and 11th October.—After heavy fighting, South Korean troops recaptured "Whitehorse" hill after dark on 11th October. Six MIG-15s were shot down by Sabre jets. Six Allied aircraft were reported to have been lost during the week.

12th October.—Sabre jets destroyed four MIGs and damaged two others when escorting a fighter-bomber attack on a large enemy billeting area at Sonchyon.

13th October.—The Allies launched an attack against enemy positions in the Kumhwa area. A number of attacks by Chinese on "Whitehorse" hill were repulsed by South Korean troops. Superfortresses bombed enemy troop concentrations on the Haeju peninsula. Four MIG-15s were shot down by Sabre jets.

14th October.—U.N. troops continued their offensive in the East-central front seizing part of a ridge and driving the enemy off two other hill positions North of Kumhwa.

15th October.—U.N. land, sea, and air forces made a large scale feint invasion on the East coast of North Korea, thereby deceiving the enemy who moved large forces into the threatened area. U.S. troops gained further ground North of Kumhwa. South Koreans completed their occupation of the "Whitehorse" hill area.

THE INTERNATIONAL SITUATION¹

By A. K. CHESTERTON, M.C.

BRITAIN AN ATOMIC POWER

THE most important event of the quarter—it may be, from the national point of view, the most important event of the post-war years—has been the successful testing of the British atom-bomb. Although it was certain that sooner or later British scientific genius and mechanical skill would arm us with this master weapon, the fact that we have now, as it were, actually achieved atomic status, cannot possibly fail to bring greater stability to the world. We are not only made immensely more potent as an ally, but can hope, in the near future, to be ourselves the guarantors of peace. The significance of such a development should not be overlooked. There is no greater error than the rather naive assumption that the present pattern of international relationships is fixed and unalterable. Because the one absolute certainty is that they will alter, although in what way no man can predict, the essential thing is that no permutations of the international kaleidoscope shall leave this Country exposed and vulnerable. Britain's possession of the atom-bomb, if dynamically and constructively exploited, will both secure her against this danger and form a sort of reserve peace-system should international organizations, like the League of Nations, fail in the hour of crisis to function.

As experience is gained, and technical skill fully deployed, it is obvious that atomic weapons will become increasingly powerful and progressively cheaper to produce. This implies a revolution in the dynamics of power. The effect will not be, as Carlyle said of the invention of gunpowder, to "make all men tall," but it must be to give a nation of Britain's productive capacity something like parity with the United States and the Soviet Union. In a revolver duel, the man who has a weapon in each hand is fully armed: his fire-power will not be increased by placing a dozen more revolvers within his reach. The implication should need no stressing. Had wars based on quantitative values continued, Great Britain as a political entity would have ceased to exist. As a result of the shift of emphasis in favour of quality, we can soon re-establish a modern *Pax Britannica* by the simple strategical device of placing atom-bomb squadrons on British bases round the world, not as a threat to small or inoffensive peoples, but as a menace to any major aggressive Power which might seek to disturb world peace.

EUROPEAN DEFENCE

While guarantees of world peace have been greatly strengthened by atomic developments in Britain, it cannot be said that the progress of collective measures towards the same end has exceeded the hopes of any except the most extreme pessimists and sceptics. Exact details are naturally not available, but there is no doubt that fulfilment everywhere lags behind the somewhat large promises made at the N.A.T.O. meeting at Lisbon earlier in the year. The British Government has been compelled to modify its arms programme, the shortcomings of the French are believed to be large, and supplies from the United States to date are only a fraction of what had been expected. These countries are not without their legitimate excuses. The dangerous unbalance of Britain's economy has necessitated the diversion of resources to the export drive. America's continuing commitments in Korea are far larger than she ever expected, and she has not been helped by the largest steel strike

¹ As deduced from reports up to 28th October.

in her history. France is finding the utmost difficulty in maintaining the costly struggle in Indo-China and at the same time building up home forces adequate for European defence. It is this predicament, even more than the hurt to her pride, which evoked from France the sharp protest to Washington at the delivery of the Note criticizing her industrial failures and tendering what she regarded as gratuitous advice on the conduct of her fiscal policy. What really angered Frenchmen was the warning contained in the Note that France next year will receive from America \$125,000,000 less than she had anticipated in her budgetary estimates. Paris is also anxious to receive from Washington long-term guarantees of off-shore purchases—products paid for by the United States, but not leaving their country of origin—so as to be able to plan production for three or four years ahead. The French view is understandable, but so is the American reluctance to commit herself so far in advance. Nothing so damages international relationships as the breaking of specific promises.

In spite of all these and many more difficulties, a more or less coherent fighting force is steadily being created. The belief of responsible military men, including Field-Marshal Lord Montgomery, is that it now offers some hope of stopping a hostile army from sweeping across Europe. Its purpose, as Lord Montgomery explained to a Press conference in London, is to provide a cover while national reserves can be mobilized and brought into action. Whether or not the elaborate integration of commands which has taken place to achieve it represents the highest efficiency and the truest economy of means is a matter about which it is permissible to argue, but there can be no argument about the desirability of a reliable army standing on guard behind the Elbe.

THE MIDDLE EAST

EGYPT

General Neguib's revolution has been an astonishing phenomenon, not without its mystery. The British public, which has a taste for over-simplified versions of events, has eagerly accepted the legend of a simple soldier, outraged by the spectacle of corruption in his country, arising in Cromwellian wrath to put an end to it. There is no reason to doubt the General's *bona fides*, but there is certainly in his uprising more than what that legend would suggest. One possible pointer was his visits, not long after his *coup*, to the Cairo Grand Synagogue, where he attended services. As anti-Jewish feeling is very strong in Egypt, that may seem a bold move for one so recently ensconced in power—a risk not to be undertaken, one might think, without hope of commensurate political gains. The possibility should not be ignored therefore, that General Neguib stands, among other things, for an Egyptian-Israeli accord. As the Egyptians have not been prosecuting their 'war' with any noticeable vigour or conspicuous skill, they would have nothing to lose by the liquidation of this distinctly Ruritanian conflict. The Israelis, because of Egypt's strategic position and economic possibilities, would have much to gain.

Another pointer is the speeding up, since General Neguib's seizure of power, of negotiations about the future of the Sudan. The urgency of the efforts to secure this settlement is perhaps to be explained by the desire to carry out the large-scale development schemes planned for the Nile waters, which are now held up, nominally because of "unsettled political conditions," but more probably because the foreign financial backers desire to exercise, through the Egyptian Government, full riparian control, extending at least as far as the Uganda border. When the Sudan problem is resolved the next step may well be a demand for the setting up of an international

'functional authority' to take charge of the new Owen Falls barrage. Paradoxically, despite these rather ominous straws in the wind, General Neguib has also managed to ease relations between Cairo and London, one result of which was the 'accommodation' made to Egypt of £5,000,000 from her blocked sterling account. There may well have been an economic motive actuating the British Government but, even so, when one considers that the Egyptians have sacked all Britons from official employment, and replaced them with Americans, Germans, and Italians, Whitehall's friendly disposition might seem to be more than generous.

PERSIA

The Persian attitude towards Great Britain defies analysis within the framework of the Persian domestic economy. Bereft of royalties from oil, formerly the largest single source of revenue, Teheran has nevertheless pursued so strange and frantic a vendetta against this Country that every possibility of a settlement has been no sooner adumbrated than killed. Not content with securing the dispossession of the Anglo-Iranian Company, the Persian Government has been systematically destroying British influence and trade throughout the country, and now, by breaking off diplomatic relations, it has severed its bonds with a nation but for whose strong protective arm, and fructifying commerce, Persia would not to-day exist as an independent political entity. The character of her people is not so fashioned that it can sustain with equanimity grievous economic losses such as the present dispute has imposed upon her. There can be no other explanation than that some means, not disclosed, has been employed to tide the Teheran Government over its financial difficulties, and that those who would, in the ordinary course, rebel against the self-induced stagnancy, have found it worth their while to acquiesce. Although Britain's long and honourable trade with Persia is being given its quietus, there is no reason to suppose that the trade will not pass to other hands. That may indicate the direction in which to look for the dynamic of the entire anti-British drive.

To secure American support for the last approach to the Persian Government Great Britain was obliged to agree to the recognition of the nationalization of the oil industry, which she had created by her own skill and enterprise. That decision must have cost Mr. Churchill much anguish of heart. The British demand was reduced to a claim for compensation for the loss of her industry, and for the value of the 1933 concession. Dr. Moussadek, however, made it clear that he was not interested in a negotiated settlement. He had the astonishing effrontery to send in a bill for £49,000,000, for all the world as though it were Persia, and not Britain, which had been robbed. His action has been likened to that of a burglar who presents his victim with an expenses account for the cost of his jemmy and other tools of his trade. When this amiable attempt at extortion was waived aside, he had the further audacity—or was it just a sense of humour?—to express his willingness for the bill to be met on the instalment plan, with only £20,000,000 down! Now that the entire proceedings have been reduced to burlesque, it would surely be within the British Government's right—some would say duty—to withdraw its recognition of the fact of nationalization, and to re-assert its claim to British property.

THE FAR EAST

KOREA

Despite their protestations, nobody can believe that the Communists in Korea have any serious intention of seeking a peace treaty with the Western Powers.

"We shall never agree," said their spokesman, "to any conditions which do not provide for the repatriation of all prisoners." As scores of meetings were held to discuss this particular problem, the presence of the Communist representatives would seem to have been singularly fatuous if there was never any intention of reaching an agreement. The only explanation is that they were employing delaying tactics for the sole purposes of building up their strength and wearying their foes. They have obviously attained both objectives. Their fortifications in depth are now officially acknowledged to be formidable, while the war has become very unpopular in the West, especially in the United States. Utterances of both candidates in the American Presidential election show that there are no votes to be won by advocating the intensification of the struggle, but many votes awaiting the man who announces the most effective method, short of an outright scuttle, to bring about a swift and effective withdrawal of American troops. General Eisenhower suggested the raising of a South Korean army of two million men, which seems to be rather a lot to expect from a population about the size of Canada's. The General, at any other than election time, might have thought so too! If there should ever arise an outright demand for the withdrawal of non-Asian troops, it is possible that we may hear of a proposal for the employment of Japanese forces, an idea that might be more congenial to the Americans than it would be to London, Paris, Ottawa, or—in particular—Canberra. Yet the step is logical. By no other means can the unbalance of power in the Far East be even slightly redressed.

The renewal of the fighting during October was for tactical, rather than for strategical, ends, but no doubt it was also intended to serve the purpose of making the conflict still more irksome to Western public opinion. So little is known of conditions in Red China that it is difficult to estimate the extent to which the Korean struggle is a drain on China's resources. Its impact on the 500 million inhabitants can only be slight, so that the psychological advantage must be increasingly on the Chinese side. As the West is not well equipped to wage a war of attrition, and as the large scale use of Japanese troops may not be, for whatever reason, a practical proposal, it must again ask itself: what alternative is there but victory in the field?

INDO-CHINA

The impetus given by the late Marshal de Lattre de Tassigny to French operations in Indo-China seems to have become spent. Steady progress has been made in the building up and equipping of the new Viet-Nameese army, but its battle-worthiness has still to be tested in an all-out offensive. Meanwhile, great strain is placed on the French forces, which for years have been on active service against a foe capable not only of maintaining guerrilla activities over a vast and difficult area but also, from time to time, of fighting pitched battles. Evidence would suggest that China is speeding up and extending the flow of military stores to Viet-Minh, which greatly adds to French anxieties in the frontier zone. Fighting here has again flared up, especially in what is known as the Thai-inhabited country, a mountainous region in Laos and Tongking bordering on Yunnan.

Although the French are a tenacious people, their weariness of the Indo-China war, because it has continued so much longer, is even more pronounced than the revulsion of the Americans from what now seems to them the sterile conflict in Korea. What must soon be undertaken by the major Western Powers is a thorough revaluation of the entire position there. The West cannot win a war of attrition in Asia: the very idea is fantastic. Either there must be found some means of

achieving decisive victories, or the Western Powers will be obliged to cut down their present commitments to a minimum. To suffer these suppurating sores on the periphery of their spheres of influence is to be steadily drained of strength, and, perhaps, if the process is prolonged, even fatally weakened.

MALAYA

Although British successes in Malaya are secured almost every day, they are local affairs which seem to have little or no influence on the situation as a whole. General Sir Gerald Templer, shaming those in high positions who, two or three years ago, were predicting a speedy end to the business, asserts that the road ahead will be long and arduous. The hope has been expressed in some quarters that the labours will be worth while, a scepticism not born of any disbelief in the efficiency of British arms, but produced by General Templer's constant reiteration of the Government's determination to grant self-government to the Malayan peoples. If these communities—so runs the argument—are capable of conducting their own affairs, they must surely be capable of conducting their own defence: should they be incapable of the second, then assuredly they are incapable of the first.

What the critics have in mind, no doubt, is the example of Burma. Prodigious British exertions were made, and sacrifices willingly endured, to drive the Japanese out of Burma, but the result is derisive—a country handed over to anarchy and chaos, with no single benefit conferred either upon the Burmese, or upon the Commonwealth, whose forces achieved the 'liberation' of a people totally unable to help themselves. The thought of a long-drawn-out campaign in Malaya, ending in the same abandonment of the fruits of victory neither creates cheerful thoughts nor conduces to enthusiastic effort. What is needed is a new inspiration. The British nation, say the critics, cannot be expected to continue to slave in the cause of bowing itself out of history. In as far as there may be substance in that criticism, it must be met.

CORRESPONDENCE

(Correspondence is invited on subjects which have been dealt with in the JOURNAL or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, but publication of letters will be dependent on the space available in each number of the JOURNAL.—EDITOR.)

RIFLE SHOOTING

To the Editor of the R.U.S.I. JOURNAL.

SIR,—Lieut.-Colonel B. S. Jerome in his article *Rifle Shooting—A Parade or a Sport?*¹ is on the right track, but he only deals with the man after he has entered the Service. Do we send a competitor to the Olympic Games after only two years' training? Usually our Olympic competitors, although fairly young men, have started their chosen sport as boys, and have more years of training behind them when they go abroad than the average Regular soldier has years of service. If we are ever to have efficient rifle users, as distinct from rifle carriers, they must start as the archers of Agincourt started, as boys.

In countries where marksmanship is taken really seriously, such as Switzerland, pre-war Germany, the Scandinavian countries, Belgium, the U.S.A., and our own Dominions, the rifle shot starts his shooting career long before he leaves school. The spirit of competition, absolute freedom to experiment, and lack of police restrictions over manufacturers and shooters have led to some remarkable results. On the Continent, 'free rifle' shooting has trained marksmen who can hit small targets from the standing position, which is more useful in active warfare to-day than our conventional prone position. In the U.S.A., 'bench-rest' rifles are making groups of under one inch at two hundred yards regularly. Taking an analogy from the motor trade, where the secret racing engine of yesterday is driving the family saloon of to-day, these highly accurate achievements may be the military standards of a future war. That we continue to ignore accuracy in arms and men is no reason why our enemies should do so. But it is most important to realize that the best results are only obtained by civilians using civilian arms under civilian conditions.

A modern army is the best of the nation's manhood in uniform. If the War Office wants a high standard of marksmanship, several important changes will have to take place. The Arms Act of 1937 must go. The ban on all rifled weapons is absurd and dangerous. Rifle and pistol shooting is just as respectable as golf or tennis. Rifle and pistol ranges must be provided near every considerable centre of population, and they must be long ranges. The man whose limit is 500 yards is not a match for the man who is accustomed to fire at 1,000 yards. Civilian arms and ammunition makers must be allowed to provide the shooting public with whatever they want, without any restrictions. A man who knows he has a good tool of his own choice is encouraged to do good work. Until we can shake off the bonds of the Home Office, the best weapons and ammunition must be imported freely from abroad, where they have rifles and pistols such as we have never seen. The drill sergeant must be taught that his place is the parade ground, and not the range.

We had one lesson in marksmanship in the American War, a few on the North-West Frontier, and another one in the Boer War. In every case our instructors were not Regular soldiers, but they could shoot. We could not, and we cannot now.

¹ See JOURNAL for August, 1952, page 406.

The archers we sent to Agincourt were the terror and envy of Christendom. We still have their blood, but we have lost the freedom they had.

E. H. BAXTER.

2nd October, 1952.

VISCOUNT HALDANE OF CLOAN

SIR,—With the approval and support of the Haldane family, I am collecting material for a book dealing with the life and times of Viscount Haldane of Cloan (1856-1928); and I should be grateful for the loan of letters and for personal reminiscences of Lord Haldane, or of matters in which he was concerned.

Spring Pond,
Wispers, Nr. Midhurst,
Sussex.

DUDLEY SOMMER.

17th October, 1952.

GENERAL SERVICE NOTES

NORTH ATLANTIC TREATY ORGANIZATION

UNITED STATES FORCES IN EUROPE.—A reorganization of the command arrangements for the United States forces in Europe was announced by General Ridgway on 30th July, under which a new United States European Command headed by General Ridgway himself was set up, with temporary headquarters at Frankfurt. General Thomas T. Handy, hitherto C-in-C. of the United States Army in Europe, was appointed General Ridgway's deputy in the new Command with the task of exercising day-to-day direction and administrative control of headquarters.

Under the new United States C-in-C., Europe, it was stated, would come the following United States Commands :—(1) The United States Army in Europe, commanded by Lieut.-General Manton S. Eddy who would succeed General Handy ; (2) the United States Air Command in Europe ; and (3) the United States Naval Command, Eastern Atlantic.

The official statement said that the reorganization aimed at the co-ordination of all three United States Services in Europe for purposes of logistics and supply, and at giving General Ridgway the ultimate authority, not only in commanding United States forces in any military operation but also of directing their supply and support. The announcement added, however, that the new European Command would not restrict the exercising of operational command of United States forces as now vested in N.A.T.O. commanders, meaning that Marshal Juin, C-in-C. Allied Land Forces, Central Europe, was still operationally the immediate Allied Commander of the United States land forces in this area, under the supreme command of General Ridgway.

HEADQUARTERS OF SOUTH-EAST EUROPE COMMAND.—It was announced from S.H.A.P.E. on 18th August that the Turkish port of Izmir (Smyrna) had been chosen as the headquarters of the newly established South-East Europe Command.

EXERCISE "MAINBRACE."—More than 160 ships, with a large number of aircraft and an amphibious force including U.S. Marines, the whole representing eight N.A.T.O. nations, took part between 13th and 23rd September in Exercise "Mainbrace," the purpose of which was to put into practice international N.A.T.O. co-operation for defensive purposes. The British warships taking part numbered 77, ranging from the battleship *Vanguard* and two fleet aircraft carriers to fast patrol boats and an aviation tender. The exercise was under the joint overall command of the two N.A.T.O. Supreme Commanders—Admiral Lynde D. McCormick, U.S.N., Supreme Allied Commander, Atlantic, and General Matthew B. Ridgway, Supreme Allied Commander, Europe.

The exercise was divided into five parts. In Part 1, an Allied carrier force sailed northward from United Kingdom ports for exercises in Northern Norway. In Part 2, this force moved southward, replenishing with fuel on passage, to join in exercises in Denmark. In Part 3, convoys to and from Scandinavia were protected by surface forces and carrier and shore-based aircraft. In Part 4, an amphibious force of U.S. Marines sailed from the United Kingdom to aid land forces in Jutland. This expedition was strongly escorted and included its own air support for the troops when ashore. In Part 5, in the Kattegat and the Baltic approaches to Denmark, West of 16 degrees East, light forces from Denmark, Norway, and Britain exercised under Danish command with submarines and coast defences to protect the shores of Denmark.

After the operations ended, many of the ships proceeded to Oslo, where an exercise critique, attended by some 200 officers of the eight nations, was held on board H.M.S. *Eagle*.

EXERCISE "SCANDIA III."—Linked with Exercise "Mainbrace," Exercise "Scandia III" began in Schleswig Holstein on 18th September under the direction of Major-General Christopherson, the Commander of the Norwegian Army Command in Germany. British, Danish, and Norwegian troops stationed in Schleswig Holstein took

part, with reinforcements from Denmark and aircraft from the N.A.T.O. countries.

EXERCISE "HOLDFAST."—The largest land and air exercise since the war, this exercise, which began during the night of 15th/16th September, marked the climax of this year's training of the forces under General Sir John Harding, C.-in-C., British Army of the Rhine, and Air Marshal Sir Robert Foster, C.-in-C., 2nd Allied Tactical Air Force. Some 200,000 British, Canadian, Belgian, and Dutch troops, and approximately 800 aircraft took part. The general area of the operation lay between the Rhine and the Weser. It was bounded on the East by the Weser, on the North by the Ruhr-Hanover *Autobahn*, on the West by a line Kamen-Unna-Iserlohn-Lüdenscheid, and on the South by a line Lüdenscheid-Meschede-Brilon-Warburg-Helmarshausen.

The objects of the exercise were to practise co-operation of land and air forces, especially liaison between the several national elements; to exercise the troops under protracted conditions of air inferiority; and to test not only how heavy and damaging blows could be imposed on an enemy attacking from the East, but also how he could be made to recoil and be forced to reorganize before renewing the battle.

On 20th September, a composite battalion about 400 strong from the 46th Parachute Brigade, T.A., dropped near Unna, having been flown from England, with the object of disrupting communications behind the front of the defending forces.

The exercise ended on 22nd September and the results were summed up at Sennelager on 23rd September. Field-Marshal Lord Alexander, the Minister of Defence, arrived at Sennelager on 16th September and remained until the end of the exercise.

EXERCISE "EQUINOX."—This Franco-American exercise began at midnight, 16th/17th September, in the Karlsruhe area. The total number taking part was 95,000—the French predominating—and included 16,000 tanks and vehicles, 600 aircraft, and 15 ships of the French Rhine Flotilla. The method of dealing with the stream of refugees from the East endeavouring to cross the Rhine was one of the problems posed by the exercise.

EXERCISE "ANCIENT WALL."—Three Italian infantry divisions, two Alpini brigades, and one armoured brigade together with amphibious craft protected by warships, the whole supported by aircraft of the United States Air Force and of the United States Navy from Vice-Admiral Cassady's Sixth Fleet, were involved in Exercise "Ancient Wall" which took place in September in the Friuli area in North-East Italy. New Italian jet fighters recently supplied to the Italian Air Force also took part, and paratroops were dropped from Italian transport aircraft.

The purpose of the exercise, which was under the direction of Admiral Carney, Allied Commander, Southern Europe, and controlled by General Frattini, Commander, Allied Land Forces, Southern Europe, and Lieut.-General Schlatter, Commander, Allied Air Forces, Southern Europe, was to test how far the forces under Admiral Carney's command have progressed in operational preparedness during the first year of the command's existence.

After the exercise, Admiral Carney praised the Italian forces for their efficiency, but deplored the lack of equipment, particularly the deficiencies in armament, artillery, and communications.

PACIFIC SECURITY TREATY

FIRST MEETING OF THE PACIFIC COUNCIL

The first meeting of the Pacific Council, set up under the Tripartite Security Treaty between Australia, New Zealand, and the United States, was held at Honolulu from 4th to 6th August, the three signatory countries being represented by their Foreign Ministers: Mr. R. G. Casey (Australia), Mr. Clifton Webb (New Zealand), and Mr. Dean Acheson (United States).

At the end of the meeting a communiqué was issued stating that the Pacific Council

had established the necessary organization to implement the Tripartite Treaty, and that it had, in particular, decided to create a military organization. An early meeting of the military representatives in Honolulu was arranged to work out details of the military machinery required, the general nature of this machinery having been agreed to. A spokesman of the United States State Department stated that the military representatives would, in future, meet periodically as required by circumstances—their meetings rotating between Pearl Harbour, Melbourne, and Wellington—and that they would attend the Council meetings. Military liaison machinery had been provided by the arrangement that each Government could assign two liaison officers to the military representatives of the other two countries.

GREAT BRITAIN

CHIEF STAFF OFFICER TO THE MINISTER OF DEFENCE AND DEPUTY SECRETARY (MILITARY) OF THE CABINET

It was announced on 10th October that Lieut.-General Sir Nevil Brownjohn would become Chief Staff Officer to the Minister of Defence and Deputy Secretary (Military) of the Cabinet on 1st December. He succeeds Lieut.-General Sir Ian Jacob who has been appointed Director-General of the B.B.C.

EXERCISES IN GERMANY

EXERCISE "SPEARHEAD I."—This exercise, which began on 1st August and ended on 10th August, took place astride the Rhine between Emmerich and Wessel. It was designed both to assess afresh the weight of the build-up of tanks, and anti-tank guns and heavy supporting weapons, and to practise an armoured division in fighting on a wide front on a major river. The exercise was directed by Lieut.-General A. D. Ward, Commander, 1 Corps, and the principal army formations involved were the 7th Armoured Division and 2nd Infantry Division, with the 11th Armoured Division providing the control and umpire organization. The Rhine Squadron of the Royal Navy and squadrons from No. 2 Group, R.A.F., also took active parts. A feature of the exercise was a parachute assault by more than 400 officers and men of the 45th Parachute Brigade, T.A., who were carried from England in aircraft supplied by the United States 12th Air Force stationed at Frankfurt.

EXERCISE "SPEARHEAD II."—More than 40,000 British troops in Germany took part in this eight-day exercise which commenced on 21st August in an area bordered by Verden, Celle, Petershagen, and Sulingen in Lower Saxony. The objects were (i) to practise the crossing of a major river, (ii) to assess the value of a minor river in delaying operations, and (iii) to exercise an armoured division in defence of a battle line on a major river along a wide front. The Weser and the Leine were utilized as the major and minor rivers respectively. The exercise, which was directed by Lieut.-General A. D. Ward, Commander, 1 Corps, featured the tactical manœuvring of two armoured divisions supported by squadrons of No. 2 Group, R.A.F., and a drop of some 500 troops of the 44th Parachute Brigade, T.A., who took off from Watton, Norfolk, R.A.F. station.

JOINT HEADQUARTERS FOR BRITISH FORCES IN GERMANY

The headquarters of the British Army of the Rhine announced on 15th August that the three British Services in Germany would have a joint headquarters on the West bank of the Rhine, instead of the present separate Navy, Army, and Air headquarters located in the centre of the British Zone. The move would take place as soon as the necessary accommodation could be created for the joint headquarters.

ATOMIC WEAPON TEST

The Admiralty, on the authority of the Prime Minister, announced on 3rd October that a British atomic weapon had been successfully exploded in the Monte Bello Islands off the North-West coast of Australia.

The Australian Defence Minister, Mr. McBride, said that the test took place in the presence of five ships of the Royal Navy, 11 Australian naval vessels, and a number of leading scientists.

The five ships of the Royal Navy were the escort carrier *Campania*, flagship of Rear-Admiral A. D. Torlesse, who was in command of the operation; the frigate *Plym*; and the tank landing craft *Tracker*, *Zeebrugge*, and *Narvik*.

The explosion took place at 0800 hours local time on 3rd October (midnight on 2nd/3rd October, G.M.T.). It was a joint operation involving the three fighting Services and the Ministry of Supply, with the close co-operation of the Australian Government and armed Services, under the scientific direction of Dr. W. G. Penney, F.R.S., of the Ministry of Supply.

DEVELOPMENT OF GUIDED MISSILES

The first official statement on British progress in the development of guided missiles was made on 26th July by the Minister of Supply, Mr. Duncan Sandys, who, accompanied by the Secretary for Air, Lord de l'Isle and Dudley, V.C., had earlier in the day visited the Ministry's experimental establishment at Aberporth, Cardiganshire, to watch firing trials of guided rockets.

Mr. Sandys stated that, although many technical difficulties remained to be overcome, some of the most complex scientific problems had been successfully solved, with the result that Britain was "coming within measurable distance" of putting these "fantastic new weapons" into production. After indicating that guided rockets had been developed which could travel at well over 2,000 m.p.h. and could rise to heights "far greater than any bomber is likely to reach for many years to come," he added: "These rockets can be steered, or better still, can steer themselves through the air with great accuracy. They are capable of rapidly altering course, as they would have to do to intercept aircraft taking evasive action. In fact they can twist and turn with four or five times the degree of manoeuvrability of a fighter plane."

Mr. Sandys went on to say that this progress was "the outcome of the combined work of a great number of people in science and industry"; that the basic research had been done mainly by the Government's experimental establishment; and that the results had been made available to selected firms, which had been entrusted with the task of developing specific rocket weapons to fulfil various operational roles. "Almost every branch of industry," he remarked, "is playing its part—aeronautics, engineering, electronics, plastics, chemistry, and explosives. For this development work new laboratories, firing ranges, and other facilities have had to be provided on a considerable scale, and we are now planning the factory capacity which will be required for production." More than 100 firms were at present engaged, he disclosed, on what he could "only describe as a new industry—the guided rocket industry."

CIVIL DEFENCE

NEW MEASURES TO INCREASE NUMBERS OF VOLUNTEERS.—The following new measures, intended to increase the number of volunteers for Civil Defence, were announced by the Home Secretary, Sir David Maxwell Fyfe, in the House of Commons on 18th July:—

(a) All men between 18 and 30 years of age who were not likely to be required for service in the Armed Forces in the early stages of an emergency, such as "Z" reservists who had not been earmarked for recall or who were not performing some analogous whole-time service (e.g., as policemen and firemen), would become eligible for part-time service in the more active branches of Civil Defence.

(b) All men over 30 years of age who were not likely to be required for service in the early stages, and were not performing analogous whole-time service, would become eligible for any form of part-time service.

(c) Women between 18 and 30 years of age would be allowed to volunteer for Head-

quarters and Wardens' Sections of the Civil Defence Corps and the Special Constabulary, irrespective of previous police experience.

CIVIL DEFENCE MOBILE COLUMN AND FOOD CONVOYS.—Other points made by Sir David Maxwell Fyfe included the following :—

(a) Preparations for establishing an experimental Civil Defence mobile column were "well advanced" and arrangements had been made to obtain volunteers from the Army and R.A.F. for one year to man the column; it was hoped that it would be in full operation early in January, 1953, when it would start carrying out exercises with local Civil Defence forces.

(b) Among the Civil Defence forces would be food convoys established by the Ministry of Food; 11 such convoys had already been set up at strategic points throughout the Country, and teams were being trained to operate them.

TACTICAL SCHOOL.—The new Civil Defence Tactical School which has been established by the Home Office near the Civil Defence Staff College at Sunningdale, Berkshire, opened on 15th September with a course of three weeks for 17 selected students. The first long course began on 20th October, and later there will be short courses for senior officers. The school, which is residential, can accommodate 30 students at present, and it will be possible to take 50 when more of the building is completed.

UNIFORMS.—It has been announced by the Home Office that, on enrolment, all members of the Civil Defence Corps will in future be issued with an armband and beret with badge and, except in the case of the Welfare Section, will become eligible, at the discretion of the Corps authority, to receive full uniform after satisfactory completion of the whole of their basic training instead of the present qualifying period of 10 hours.

Until further notice armbands and berets only will be issued to members of the Welfare Section; but any uniforms already issued to members of that Section need not be recalled. Those members of Women's Voluntary Services and of voluntary aid societies who are members of the Welfare Section may wear the uniform of their organization with the addition of the Civil Defence armband.

DOMINIONS AND COLONIES

CANADA

NEW TRAINING AREA.—A new training area, measuring some 20 by 30 miles and situated to the North-West of Saint John, New Brunswick, wherein major formations using modern weapons with their increasing ranges and safety areas can be trained, has been selected after careful consideration of representations from many quarters and discussions with the Premier of the Province of New Brunswick. It will take between two and three years to complete accommodation so that a brigade can train in Winter as well as in Summer, and to provide facilities for divisional training throughout the year in emergency-type accommodation.

NEW SERVICES COLLEGE.—A new Services college named "College Militaire Royal de Saint Jean," for training officers for the three Services, opened at St. Johns in the Province of Quebec on 15th September. The maximum number of cadets which can be accommodated at present is 125, but construction of the additional buildings required will commence at an early date.

REGULAR OFFICER TRAINING PLAN.—Depending on their qualifications, cadets of the Canadian Services colleges and undergraduates who are members of the university training plans for the Royal Canadian Navy, the Canadian Army, and the Royal Canadian Air Force may join the armed forces as subordinate officers and either serve on full military duty or continue academic study as members of the Regular Forces.

Cadets who have completed two years of the Services colleges course, including Summer service training, and students who have completed two years of a suitable

university course and two Summers of service training may apply for commissions as line or executive officers. On acceptance, they will join their units.

Second year cadets and students taking technical or specialist courses either at Services colleges or universities may apply to join their Services and receive assisted education for the balance of their courses. Third year students have similar choices.

Cadets who have completed their first year may apply to join their Service and take an assisted course either for an additional year in the case of executive officer candidates or three years if taking a technical course.

Candidates who apply for enrolment under the plan must undertake to serve with the Regular Forces for three years from the date of leaving Services colleges or universities.

The plan is in addition to the arrangements which will continue in effect for training officers at the universities and Services colleges. Nor does it affect existing Command Contingent plans or the policy of granting short service appointments to officer candidates who have reached junior matriculation standards.

AUSTRALIA

GOVERNOR-GENERAL.—It was announced from Buckingham Palace on 2nd September that Her Majesty The Queen, on the recommendation of H.M. Ministers in Australia, had approved the appointment of Field-Marshal Sir William Slim as Governor-General of Australia in succession to Sir William McKell. A similar announcement was made in Canberra by the Federal Prime Minister, Mr. Menzies. Field-Marshal Sir William Slim will assume the duties of Governor-General early in 1953.

NEW URANIUM FIELD.—The Administrator of the Northern Territory, Mr. F. J. Wise, announced on 14th August that a new field of radio-active minerals had been discovered in the Edith River area 180 miles South of Darwin and 130 miles South of the uranium deposits at Rum Jungle. Mr. Wise stated that expert inspection of the area, which was only one and a half miles from a railway siding, showed that the discovery was very important and well worth detailed investigation.

NEW ZEALAND

ARMS SUPPLIES FOR INDO-CHINA

The New Zealand Minister for External Affairs, Mr. T. C. Webb, announced on 16th September that New Zealand had transferred a quantity of surplus arms and material to the French authorities in Indo-China and that a substantial proportion of this material—most of which was United States lend-lease supplies—had recently been taken to Singapore, for transshipment to Indo-China, by the New Zealand cruiser *Bellona*. Mr. Webb said that France had been offered, free of charge, some 1,300 rifles, 600 machine guns, and nearly 750,000 rounds of ammunition.

SOUTH AFRICA

NEW ARMS FACTORY

It was reported from Pretoria on 18th August that an arms factory is being erected in South Africa with help from the Birmingham Small Arms Company. The factory, which is designed for rapid expansion in the event of war, is expected to begin production early next year of American anti-tank weapons, British air-to-ground rockets, rifle and machine-gun barrels, and other parts.

INDIA

TREATY WITH JAPAN

A separate peace treaty between India and Japan, officially entitled a treaty of "perpetual peace and unity," was signed in Tokio on 9th June by Mr. Chettur, the Indian Ambassador, and Mr. Okazaki, the Japanese Foreign Minister.

PAKISTAN**TREATY WITH BURMA**

A treaty of "perpetual peace and friendship" was signed in Rangoon on 25th June by Mr. Sultanuddin Ahmad, the Pakistani Ambassador, and Sao Hkun Hkio, the Burmese Foreign Minister, on behalf of their Governments.

KENYA**STATE OF EMERGENCY**

A state of emergency was declared in Kenya on 20th October to enable the authorities to deal with terrorism. The 1st Battalion, The Lancashire Fusiliers, from the Suez Canal Zone, arrived at Nairobi by air on the same day, and H.M.S. *Kenya* from Ceylon arrived at Mombasa on 22nd October.

FOREIGN**BELGIUM****REDUCTION OF CONSCRIPTION PERIOD**

As a result of demonstrations in Belgium and the failure of a meeting in Paris on 12th August of delegates of the six signatory countries of the European Defence Community to reach an agreement on a common term of military service, the Belgian Cabinet decided on 13th August to reduce temporarily the conscription period in Belgium from two years to 21 months.

ISRAEL**UNITED STATES TO SUPPLY MILITARY EQUIPMENT**

The State Department in Washington announced on 11th August that, under a new bilateral agreement with Israel, concluded on 23rd July and similar to those negotiated by the United States with Egypt and Saudi Arabia, Israel had become eligible to receive United States military equipment, against payment of its "fair value" under the provisions of the Mutual Security Act. Previously, Israel had been able to purchase military equipment in the United States only from private suppliers.

ITALY**MILITARY STRENGTH**

Signor Pacciardi, Italian Minister of Defence, addressing the Ariete Armoured Brigade in September, said that Italy has now fulfilled the task set four years ago to organize 12 army divisions; that five of these divisions are at present deployed along the North-East frontier; and that in the immediate future the Ariete Armoured Brigade will be brought up to full divisional strength, and after this the frontier force will consist of six divisions, all on a war footing. He also said that the present armament will be replaced with modern equipment, and that by the end of 1953 Italy will have 15 divisions, three of which will be armoured, including five brigades of the Alpini.

Signor Pacciardi added that the Italian Air Force, still the weakest link in Italy's defences, would receive within the next year several hundred modern aircraft, and that there would be a sufficient number of bases.

KOREA

For a diary on the war in Korea see page 586.

TURKEY**MANOEUVRES**

Turkish First Army manoeuvres, in which naval and air forces co-operated, took

place in the area between the Bosphorus and the Chatalja line from 9th to 12th September. Admiral Carney, C-in-C., Allied Forces, Southern Europe, Lieut.-General Wyman, Commander, Allied Land Forces, South-East Europe, and a number of officers from S.H.A.P.E. attended.

UNITED STATES

DEFENCE APPROPRIATIONS FOR 1952-53.—A Bill appropriating \$46,610,938,912 for the United States armed forces in 1952-53, of which the major items were \$12,842,459,642 for the Navy and Marine Corps, \$12,239,500,000 for the Army, and \$21,118,361,770 for the Air Force, was signed by President Truman on 10th July. The total finally approved was about \$4,552,000,000 below the amount requested by the President in his Budget message.

The appropriations gave permission to the Navy to start the construction of a second 60,000-ton aircraft carrier and included a second atomic submarine, and covered the increase of the Air Force to 143 wings by mid-1955 as compared with about 90 wings at present. (An air wing, the basic operational unit of the United States Air Force, consists of from 15 heavy bombers to 75 fighters, plus supporting elements.)

APPROPRIATIONS FOR ATOMIC ENERGY AND DEFENCE.—An 'omnibus' Appropriations Bill for \$11,793,776,339 was signed by President Truman on 16th July after its Congressional passage, the main items being (a) \$6,031,947,750 for foreign military and economic aid, (b) \$2,898,800,000 for the expansion of atomic energy facilities, and (c) \$2,288,794,840 in supplementary defence appropriations for the construction of military bases throughout the world. Over half of the appropriations for military bases was for the Air Forces.

24-HOUR CIVIL DEFENCE WATCH EXERCISE.—Some 150,000 Civil Defence volunteers in 27 States carried out a 24-hour air defence watch commencing on 14th July. Observation stations were manned along the whole length of the Canadian border, along the Pacific coast as far South as San Diego, and along the Atlantic coast from Maine to North Carolina. This round-the-clock watch had been requested by the Air Force and the Defence Department to supplement the electronic detecting devices

NOTICE

ARMY, NAVY, MARINES, AND AIR FORCE PROVIDENT SOCIETY

This Society was established in 1889 to provide annuities for the widows (or orphan children) of its members.

Officers holding permanent commissions in the Royal Navy, Army, Royal Marines, and Royal Air Force are eligible for membership provided they are under 50 years of age.

Under the present Rules an officer may take up from one to eight memberships, and an annuity of £2 10s. od. for each membership (£20 for eight memberships) is payable when the membership has been held for six years. The annuity increases after each subsequent year up to a maximum of £13 for each membership (£104 for eight memberships). If death takes place before the membership has been held for six years the contributions are refunded to the widow or orphan children. The annual contribution for each membership is £2 plus a disparity fee of 2s. 6d. for each year the wife is younger than the member.

Full particulars and form of application can be obtained from the Secretary, 52, Montrose Avenue, Whitton, Middlesex.

NAVY NOTES

GREAT BRITAIN

H.M. THE QUEEN

ROYAL YACHT.—It was announced from Buckingham Palace on 15th September that H.M. The Queen will launch the new Royal yacht at Clydebank, Glasgow, on 16th April, 1953. The vessel is being built at the yard of John Brown and Company, Limited, and will be capable of undertaking long ocean voyages.

AIDES-DE-CAMP.—The following officers have been appointed Naval Aides-de-Camp to the Queen from 8th July, 1952, in place of the officers stated :—

Captain (Commodore 2nd Class) St. J. Cronyn, C.B.E., D.S.O., in place of Captain (Commodore 1st Class) T. M. Brownrigg, C.B.E., D.S.O., placed on the Retired List.

Captain J. H. Allison, D.S.O., in place of Captain L. N. Brownfield, C.B.E., promoted to Flag Rank.

Captain C. D. Howard-Johnston, D.S.O., D.S.C., in place of Captain R. F. Elkins, C.V.O., O.B.E., promoted to Flag Rank.

Captain H. G. Cooke, in place of Captain R. Gotto, C.B.E., D.S.O., placed on the Retired List.

Captain K. Mackintosh, in place of Captain H. W. S. Browning, D.S.O., O.B.E.

Captain B. I. Robertshaw, C.B.E., in place of Captain (Commodore, 2nd Class) W. P. McCarthy, placed on the Retired List.

Captain H. W. Biggs, D.S.O., in place of Captain R. G. Onslow, D.S.O., promoted to Flag Rank.

Captain (Commodore 2nd Class) F. A. Ballance, D.S.O., in place of Captain (Acting Rear-Admiral) W. T. Couchman, D.S.O., O.B.E., promoted to Flag Rank.

Captain (S) F. D. Pearce, R.N., has been appointed a Naval Aide-de-Camp to the Queen from 23rd July, 1952, in succession to Captain (S) C. E. Glenister, C.B.E., R.N., placed on the Retired List.

The following officers have been appointed Naval Aides-de-Camp to the Queen to date 11th August, 1952, in place of the officers stated :—

Captain (E) F. A. Lister, in place of Captain (E) G. R. Cook, O.B.E., placed on the Retired List.

Captain (E) P. C. Taylor, in place of Captain (E) R. W. Parker, promoted to Rear-Admiral (E).

H.R.H. THE DUKE OF EDINBURGH

H.M.S. *Swiftsure* (Captain Sir Robert Stirling-Hamilton, Bart., R.N.) flying the flag of the Flag Officer Flotillas (Home), Rear-Admiral W. G. A. Robson, acted as escort and guard ship to the Duke of Edinburgh during the visit of His Royal Highness to Helsinki for the Olympic Games. The Duke travelled in the Trinity House yacht *Patricia*, and visited Norway and Sweden before going to Helsinki, where he arrived on 26th July.

BOARD OF ADMIRALTY

ROSYTH VISIT.—The First Lord of the Admiralty, Mr. J. P. L. Thomas, M.P., accompanied by the Secretary of the Admiralty, Sir John Lang, and the Naval Secretary, Rear-Admiral R. G. Onslow, visited the Home Fleet and the Rosyth Command from 6th to 9th October. The party embarked in the *Vanguard* and also visited the *Eagle*, *Agincourt*, and *Battleaxe* and various shore establishments.

FAR EAST TOUR.—The First Sea Lord, Admiral Sir Rhoderick McGrigor, left London by air on 29th September on a four weeks' tour to visit British naval establishments in the East and Far East and to spend some time at sea with the Commonwealth Naval Forces operating in the Korean war zone.

(See also under "New Zealand.")

FLAG APPOINTMENTS

THIRD SEA LORD.—Vice-Admiral R. A. B. Edwards, C.B., C.B.E., appointed a Lord Commissioner of the Admiralty, Third Sea Lord and Controller of the Navy, in succession to Admiral Sir Michael M. Denny, K.C.B., C.B.E., D.S.O. (March, 1953).

FAR EAST.—Vice-Admiral C. E. Lambe, C.B., C.V.O., appointed Commander-in-Chief, Far East Station, in succession to Admiral the Hon. Sir Guy H. E. Russell, K.C.B., C.B.E., D.S.O. (March, 1953).

ROYAL YACHTS.—Vice-Admiral E. M. C. Abel Smith, C.B., C.V.O., appointed Flag Officer, Royal Yachts (February, 1953).

F.O. (AIR).—Vice-Admiral J. A. S. Eccles, C.B., C.B.E., appointed Flag Officer, Air (Home), in succession to Vice-Admiral C. E. Lambe, C.B., C.V.O. (January, 1953).

A.C.R.—Rear-Admiral A. K. Scott-Moncrieff, C.B., C.B.E., D.S.O., appointed Admiral Commanding Reserves, in succession to Vice-Admiral J. A. S. Eccles, C.B., C.B.E. (January, 1953).

INTERVIEW BOARD.—Rear-Admiral L. N. Brownfield, C.B.E., appointed President of the Admiralty Interview Board, in succession to Rear-Admiral D. H. Everett, C.B., C.B.E., D.S.O. (October, 1952).

RETIREMENTS AND PROMOTIONS

The following were announced to date 15th August, 1952 :—

Vice-Admiral the Lord Ashbourne, C.B., D.S.O., placed on the Retired List.

Rear-Admiral R. M. Dick, C.B., C.B.E., D.S.C., placed on the Retired List and re-employed in his present appointment in the rank of Rear-Admiral (Retired).

Rear-Admiral S. M. Raw, C.B., C.B.E., promoted to Vice-Admiral in H.M. Fleet.

The following were announced to date 1st September, 1952, to fill the vacancy caused by the promotion to Admiral of the Fleet of Admiral Sir Philip Vian, G.C.B., K.B.E., D.S.O., LL.D. :—

Vice-Admiral Sir Alexander C. G. Madden, K.C.B., C.B.E., promoted to Admiral in H.M. Fleet.

Rear-Admiral E. M. C. Abel Smith, C.B., C.V.O., promoted to Vice-Admiral in H.M. Fleet.

The following was announced on 12th August, 1952 :—

Captain (E) R. W. Parker, A.D.C., R.N., promoted Rear-Admiral (E) and appointed as Rear-Admiral (E) on the staff of the Commander-in-Chief, Plymouth (18th August, 1952).

The following was announced on 12th September, 1952 :—

Rear-Admiral (E) F. V. Stopford, C.B.E., retires (18th August, 1952).

EXERCISES AND CRUISES

EXERCISE "MAINBRACE."—See General Service Notes.

HOME FLEET.—The Autumn exercises and cruise of the Home Fleet began on 19th August. The Commander-in-Chief, Admiral Sir George Creasy, in the battleship *Vanguard*, with the carrier *Theseus*, cruiser *Swiftsure*, fast minelayer *Apollo*, and destroyers and frigates of several squadrons, proceeded to Invergordon for 14 days of weapon

training, on completion of which they were joined by the new carrier *Eagle* after embarking her aircraft in the English Channel and Irish Sea. In September, the Home Fleet took part in Exercise "Mainbrace," and afterwards continued the cruise programme with visits to ports in Norway, Sweden, and Denmark.

SUBMARINES.—After taking part in Exercise "Mainbrace," submarines returned to home waters in the last week of September to begin their exercise period, under the operational control of the Flag Officer (Submarines), Rear-Admiral G. W. G. Simpson, who proceeded to sea flying his flag in the depot-ship *Maidstone*. British submarines, including several of the "A" and "T" classes, were joined for the exercise by two Netherlands boats, the *Zwaardvis* and *Zeehond*.

The midget submarine *X.E.8*, after taking part in Exercise "Mainbrace," paid an informal visit to the Thames from 1st to 5th October, accompanied by the trawler mother-ship *Gateshead*. Both vessels berthed in the Pool, near the Tower Pier.

VISIT TO U.S.A.—H.M.S. *Rocket*, one of the fast anti-submarine frigates converted from fleet destroyers, visited the United States naval base at Key West in August, and remained for about two months to enable the U.S. authorities to assess the potentialities of British anti-submarine devices in comparison with their own.

R.R.S. DISCOVERY II.—The Royal Research Ship *Discovery II* left Plymouth in August to carry out experiments with new methods of taking samples of and observing animal life on the ocean bottom, returning on 11th September. She left again on 24th September to make further researches in marine physics off the western end of the English Channel and the Bay of Biscay.

MEDITERRANEAN.—During a four-day visit to Phaleron Bay in July in his flagship, the cruiser *Glasgow*, Admiral Lord Mountbatten, the Commander-in-Chief, met in Athens King Paul and General Ridgway, Supreme Allied Commander, Europe. On 1st August, the Commander-in-Chief arrived at Beirut in H.M.S. *Surprise*, visiting the President and others. He returned from Damascus to Malta by air on the 4th.

The Mediterranean Fleet returned to Malta in mid-August from its period of stand-by duty in Egypt. The second Summer cruise began on 5th September, the first visit being to the French naval base at Toulon. On 15th September, the carrier *Glory*, flying the flag of Vice-Admiral F. R. Parham, with three destroyers, arrived at Barcelona on a five-day visit. This was the first time that a British naval force had visited a Spanish Mediterranean port since the Civil War. Other ports visited by various ships of the Fleet included Algiers, Villefranche, Tunis, Taranto, Aranci Bay, and Salerno. On 20th September, during a visit by 26 units of the Fleet to Naples, the Prime Minister, Mr. Churchill, who was on holiday in the South of France, dined with the Commander-in-Chief in H.M.S. *Surprise*. Admiral Lord Mountbatten paid his first official visit to the Italian naval authorities and to Admiral Carney, U.S.N., N.A.T.O. Commander-in-Chief, Southern Europe.

EAST INDIES.—The cruiser *Gambia* returned to Devonport from the East Indies Station on 31st July. She left England on 30th March, 1950, and served in the Persian Gulf and later in the Canal Zone before proceeding to Ceylon in January, 1952.

FAR EAST.—The light fleet carrier *Vengeance* returned to Portsmouth on 26th August from a trooping cruise to the Far East, her passengers including the company of the cruiser *Ceylon*, which was relieved in Korean waters by the *Newcastle* and has been taken in hand for refit at Singapore.

The cruiser *Belfast* has been relieved in the Far East by the *Birmingham* and left Singapore in October for the United Kingdom.

SOUTH ATLANTIC.—Ships of the South Atlantic Squadron returned to Simonstown at the end of July from a cruise on the East coast of Africa. The ships taking part were the cruiser *Bermuda*, flagship of Admiral Sir Herbert Packer, and the frigates *Actaeon* and *Nereide*.

PERSONNEL

CADET ENTRIES.—The Admiralty announced on 16th July the composition of the Committee which has been set up in consultation with the Minister of Education to examine the problem of obtaining a greater number of suitable cadet entrants to the Royal Navy. The Chairman of the Committee is the Hon. E. E. S. Montagu, C.B.E., Q.C., Judge Advocate of the Fleet. The other members are Rear-Admiral C. F. W. Norris, lately Deputy Chief of Naval Personnel (Training); Instructor Rear-Admiral W. A. Bishop, Director of the Naval Education Service; Mr. J. W. Stork, Headmaster of the Royal Naval College, Dartmouth; Mr. A. E. Nicholls, Headmaster of Hele's School, Exeter; Mr. F. Barraclough, Director of Education, North Riding of Yorkshire; Mr. B. C. Sendall and Mr. A. P. Hockaday, Admiralty; Mr. P. R. Odgers and Dr. P. A. Browne, Ministry of Education; and Mr. J. S. Brunton, Scottish Education Department. Mr. R. N. Simeone, Admiralty, will act as Secretary of the Committee. The Committee will review the scope of the present methods of officer recruitment in the Executive, Engineering, and Supply Branches of the Royal Navy and will report whether in their view the scope of those methods could be widened sufficiently to provide adequate numbers or whether some alternative method or methods of entry should be introduced.

MINEWATCHING SERVICE.—Entry into the Royal Naval Minewatching Service, formed in January of this year, which had previously been restricted to men of 45 years of age and over, was on 26th September opened to a minimum age of 26 years for men or women. It will still be impossible, however, for members of Regular, Volunteer, National Service or Class Z (or its equivalent) Reserves, whose services may be required in the armed forces in the event of a war, to be accepted for enrolment.

DOCKYARD SCHOOLS.—H.M. Dockyard Schools will in future be known as "Dockyard Technical Colleges" to bring them into line with the system of classification used for other educational establishments, and their headmasters will be known as "Principals." These schools at Portsmouth, Devonport, Chatham, Sheerness, and Rosyth were instituted in 1843 "to enable apprentices to acquire a scientific knowledge of their profession." They are attended by dockyard and air repair yard apprentices aged between 15 and 19 years. The Dockyard School at Malta is also affected by the change of nomenclature.

WAR GRATUITIES.—The final date on which war gratuities and post-war credits of service pay can be claimed in respect of service in the Royal Navy and Royal Marines during the 1939-45 War is 1st January, 1953. After that date no further claims can be accepted. The post-war credit of service pay is only applicable to members of the forces below officer rank. Men and women who served with the Royal Navy and men who served with the Royal Marines in *commissioned rank* should apply to the Director of Navy Accounts 4, Admiralty, Northwick Park Hutments, Harrow, Middlesex. Men and women who served with the Royal Navy *below commissioned rank* should apply to the Director of Navy Accounts 3A, Admiralty, Foxhill Hutments, Bath, Somerset. Men who served with the Royal Marines *below commissioned rank* should apply to the Director of Pay and Records, Melville Barracks, Chatham, Kent.

MATERIEL

RESERVE FLEET.—To achieve economy in money and manpower and at the same time to increase the efficiency of the Reserve Fleet, it was decided in August that a considerable number of H.M. ships in this Fleet should be berthed in commercial ports under arrangements agreed with the Docks and Inland Waterways Executive and with certain commercial firms. The ships involved are at present moored in the upper reaches of naval harbours, and there is no space for berthing them alongside in the Royal Dockyards. The maintenance of ships of this type whilst moored in the stream involves considerable overhead expense which it is desirable to avoid. The ships will be "dehumidified," a method of preserving from deterioration the structure and equipment of compartments by sealing them and reducing the dampness in the air by an electrical

process. It will thus be possible for these ships to be maintained largely by civilian labour with the consequent release of officers and men of the Royal Navy for service elsewhere. The ports which will first be used for this purpose are Cardiff, Penarth, and West Hartlepool.

NEW CONSTRUCTION.—H.M. Coastal Minesweeper No. 14 was launched at the yard of Messrs. Cook, Welton, and Gemmell, Ltd., Grovehill, Beverley, Yorkshire, on 8th August. With a length of 152 feet and a beam of 28½ feet, she will be armed with three small guns. A similar vessel, M.1112, was launched at the yard of Messrs. Richards Ironworks, Ltd., of Lowestoft, on 4th October. These coastal minesweepers are of an entirely new type. Their construction incorporates the use of aluminium both for the framing and structural castings, the outer bottom being wood planked. The hull is thus largely of non-magnetic material.

H.M. Inshore Minesweeper M.2001 was launched at the yard of Messrs. J. S. White and Co., Ltd., Cowes, on 3rd September; and H.M. Inshore Minesweeper M.2604 at the yard of Messrs. Philip and Son, Dartmouth, on 30th September. Of 106 ft. 5 in. in length, with a beam of 20 ft. 6 in., these inshore minesweepers are designed to operate in shallow waters such as rivers and estuaries. Each will mount one small gun.

The first two of a new design of motor torpedo boat, H.M. M.T.B.'s *Gay Archer* and *Gay Bombardier*, were launched in August at the Portsmouth yard of Messrs. Vosper, Limited. Almost entirely of wooden construction, the hulls incorporate structural members of water-resistant plywood. Of 75 ft. 2 in. in length, with a beam of 19 ft. 8 in., they mount two 21-in. above-water torpedo tubes and one small gun.

The first of the new seaward defence boats, referred to by the First Lord in presenting the 1952-53 Navy Estimates, was launched at the yard of Messrs. Yarrow and Co., Ltd., Glasgow, on 21st August. Powered with Diesel engines, these boats are 117 ft. 3 in. in extreme length, with a beam of 20 ft. Their purpose is to detect, locate, and destroy submarines, including midget submarines, in the approaches to defended ports.

HOSPITAL SHIP CANCELLED.—The Admiralty has confirmed that the order for a 10,000-ton hospital ship has been cancelled. The vessel was to have replaced the Navy's present hospital ship *Maine*, now in Korean waters, and was expected to cost about £2 million; it was being built in the Clydeholm yard of Messrs. Barclay, Curle, and Co., of Whiteinch, Glasgow. In reply to a Parliamentary question the First Lord stated that the order was cancelled because of the need at the present time to devote the limited resources available to improving the fighting efficiency of the Royal Navy.

NAVAL AVIATION

NEW STATION.—The Royal Naval Air Station at Brawdy, near Haverfordwest, Pembrokeshire, was commissioned on 4th September as H.M.S. *Goldcrest*. The airfield at Brawdy was built for the Royal Air Force during the 1939-45 War and subsequently was handed over to the Royal Navy for care and maintenance. It is to be the armament training station for front line jet fighter and night fighter squadrons. Captain R. E. N. Kearney, O.B.E., R.N., is in command.

ANTI-SUBMARINE AIRCRAFT.—A new anti-submarine aircraft, the Avro Shackleton Mark II, has passed its first flights. The armament consists of two 20 mm. cannon in the nose. These are aimed by the gunner, who sits above the bomb aimer. The aircraft is powered by four Rolls-Royce Griffon engines, and carries a crew of ten. The wing span is 120 feet.

TRAINING IN U.S.A.—A number of National Service men now have the opportunity of training as Royal Naval pilots in the United States of America. In the debate on the Navy Estimates, the First Lord announced that the U.S. Navy had been very generous in offering facilities for R.N. personnel to undertake pilot training in the United States.

In response to this offer the Admiralty had already sent for training a number of officers who had joined under the eight years' short service scheme. On 18th July, it was announced that some of the National Service pilots who volunteer for four years, and permanent officers from the Fleet who volunteer for flying duties, will be included in the American training scheme. Pilots selected spend about 18 months in the U.S.A. and return fully trained to naval operational standards.

ROYAL NAVAL RESERVE

GRANT OF BLUE ENSIGN.—The first master of a home trade vessel to be issued with a warrant authorising him to fly the Blue Ensign in his ship is Captain Herbert L. Payne, O.B.E., R.D., R.N.R. (Retired), Commodore of the British Railways Dover-Calais-Boulogne-Folkestone cross-Channel service in the s.s. *Invicta*, and a retired skipper lieutenant, R.N.R. Under new regulations approved by the Admiralty, coastal shipping and fishing vessels commanded by an officer on the Retired List of the Royal Navy, Commonwealth Navy, or on the Active or Retired Lists of the Reserves holding, or having held, the rank of lieutenant-commander or skipper lieutenant, with four reservists in his crew, may now wear the Blue Ensign under an Admiralty warrant.

JUNIOR SEAMAN ENTRY.—The Admiralty and shipping organizations have adopted a new scheme to enable boys joining the shipping industry to enrol at the same time in the R.N.R., provided they have completed a specified amount of training either in the Sea Cadet Corps or in a sea training school. The minimum age of entry is 16½. Boys join as junior seamen, with advancement to ordinary seamen at 17½ and to seamen after one year's combined Merchant Navy and R.N.R. service if they are by then 18. They can, if they wish, do their first R.N.R. training, which consists of 28 days afloat in Royal Navy training ships, before joining their first Merchant Navy ships.

ROYAL NAVAL VOLUNTEER RESERVE

PERMANENT COMMISSIONS.—National Service R.N.V.R. engineering and electrical officers serving in the Royal Navy can now apply for permanent commissions in the Royal Navy under the university candidate scheme of entry. The Fleet Order announcing this explains that applications can be made after completion of one year's service. Conditions of entry will be identical with those applying to university candidates who are not doing their National Service, except that certain time served as temporary officers will be counted for seniority purposes.

SUBMARINE TRAINING.—National Service men granted officer rank in the R.N.V.R. are to be given the opportunity to serve in submarines as part of the complement after a preliminary course in H.M.S. *Dolphin*, the submarine base at Gosport. Those recommended to remain in the Submarine Branch will receive submarine pay of an additional 4s. a day.

ROYAL MARINES

RETIREMENT.—General Sir Leslie C. Hollis, K.C.B., K.B.E., to Retired List (15th July, 1952).

KOREA PRESENTATION.—At the Admiralty on 28th July, representatives of the United States Marine Corps presented to the Commandant General, Royal Marines, Lieutenant-General J. C. Westall, C.B.E., a painting of Lieutenant-Colonel D. B. Drysdale, D.S.O., M.B.E., R.M., who commanded 41 Independent Commando in Korea. The painting commemorates the action at the Chosin Reservoir, Korea, on 29th November, 1950, when the Commando operated with commendable gallantry under the command of the 1st U.S. Marine Division, and depicts the historic meeting of the two Corps at the reservoir. The presentation was made by Colonel Torrey, U.S. Marine Corps.

DOMINIONS AND COLONIES

AUSTRALIA

CARRIER LOAN.—The aircraft carrier *Vengeance* left Portsmouth for Devonport on 15th September to prepare for handing over to the Royal Australian Navy. She will be on loan until a new carrier now being built for Australia is completed.

MANUS BASE.—Mr. Casey, Minister for External Affairs, stated on 10th August that Australia had invited the United States again to make use of the base at Manus Island, which was occupied by U.S. Forces during the last war.

CANADA

NEW CARRIER

Arrangements were completed on 25th July for the purchase by Canada of an aircraft carrier of the "Majestic" class now being built at Belfast to replace H.M.C.S. *Magnificent*. The new ship is designed to handle jet aircraft.

NEW ZEALAND

ADMIRALTY VISIT TO CRUISER.—On 16th October, the Board of Admiralty visited the New Zealand cruiser *Bellona* at Portsmouth, following her participation in Exercise "Mainbrace." The *Bellona* was the first of H.M. New Zealand Ships to visit the United Kingdom, and with the concurrence of the New Zealand Naval Board the Admiralty Flag was worn by the ship to mark the occasion.

C.N.S.—Captain Sir Charles E. Madden, Bart., R.N., has been appointed Chief of the Naval Staff and First Naval Member of the New Zealand Naval Board, in the rank of Commodore Second Class, in succession to Commodore F. A. Ballance, D.S.O., R.N., with effect from February, 1953.

PAKISTAN

KARACHI DOCKYARD

The Governor-General of Pakistan, Mr. Ghulam Mohammed, on 27th September laid the foundation stone of the country's first naval repair dockyard in Karachi. It is due to be completed in two years and will provide full repair facilities for the Royal Pakistan Navy, ships of which at present go to Malta for repairs.

MALAYA

ROYAL TITLE

The title of Royal Malayan Navy, approved by the Queen, was bestowed on the former Malayan Naval Force at a ceremony at Singapore on 29th August. An address to the officers and men was given by Captain H. E. Nicholls, the Commanding Officer.

FOREIGN NAVIES

FRANCE

LOSS OF LA SIBYLLE

The submarine *La Sibylle*, formerly the *Sportsman* in the Royal Navy, failed to surface after a diving exercise on 24th September in the Mediterranean off Cape Camarat, between Toulon and St. Tropez. There were 13 officers and 34 men on board.

ITALY

CRUISER VISIT

The cruiser *Raimondo Montecuccoli*, the first Italian warship to visit Britain since before the war, arrived off Greenwich on 21st August. She brought 134 cadets from the Naval College at Leghorn for a five-day visit to London.

NETHERLANDS

AIR TRAINING

No. 3 Squadron of the Royal Netherlands Naval Air Service, consisting of eight Sea Furies, arrived in the United Kingdom in September for training in R.N. ships and establishments, as part of the co-operation between navies under the N.A.T.O. agreements.

NORWAY

LOAN OF DESTROYERS

It was announced in Oslo on 1st August that the British Admiralty will lend Norway two more "Hunt" class destroyers which will undergo modernization and refit in British yards at Norwegian expense. The *Arendal* and *Narvik*, of this class, are already serving.

RUSSIA

RETURN OF DESTROYERS

The tug H.M.S. *Warden* towed from Murmansk in August and September respectively the destroyers *Lincoln* and *Georgetown*. These ships were transferred to the Royal Navy from the United States in 1940 and loaned to the Soviet Navy in 1944.

UNITED STATES

NAVY SECRETARY.—Mr. Dean Kimball, Secretary of the Navy, arrived in London on 24th September on a visit of four days for discussions, and afterwards visited France and Germany.

FLEET AIR COMMAND.—A new Fleet Air Command in the Eastern Atlantic and Mediterranean has been set up under Rear-Admiral Edgar Cruise, with temporary headquarters in the U.S.S. *Adirondack* at Naples.

1953 PROGRAMME.—The shipbuilding programme for 1953 includes a second 60,000-ton aircraft carrier similar to the *Forrestal* and a second nuclear submarine. The carrier will be built in the naval shipyard at Brooklyn. Also in the programme are an attack submarine, three destroyers, two ocean escorts, 30 minesweepers, two store ships, and 350 landing craft. Conversions include two "Essex" class carriers and two heavy cruisers. The keel of the U.S.S. *Forrestal* was laid at Newport News, Virginia, on 14th July.

ATOMIC PLANT.—The Atomic Energy Commission in Washington announced on 31st July that it had ordered the development of an atomic power plant for "large naval vessels, such as aircraft carriers." The Commission said the contract had been assigned to the Westinghouse Electric Corporation, which is already building an engine intended for installation in the Navy's projected atomic submarine, the *Nautilus*.

ARMY NOTES

GREAT BRITAIN

H.M. THE QUEEN

The Queen has been graciously pleased to give orders for the following appointment:—H.M. Queen Elizabeth the Queen Mother to be Honorary Colonel of The City of London Yeomanry (Rough Riders), Royal Armoured Corps, T.A., with effect from 4th July, 1952.

Queen Elizabeth the Queen Mother unveiled the Commando War Memorial at Achnacarry, Inverness-shire, on 27th September.

The Queen has been graciously pleased to give orders for the following appointment:—H.M. Queen Mary to be Colonel-in-Chief of the 299th (Royal Buckinghamshire Yeomanry and Queen's Own Oxfordshire Hussars) Field Regiment, Royal Artillery, T.A., with effect from 22nd April, 1952.

The Princess Margaret was present at the Passing Out Parade at the Mons Officer Cadet School, Aldershot, on 16th October.

The Duke of Gloucester, on behalf of The Queen, presented Colours to the 18th Battalion, The Parachute Regiment (8th Battalion, The Royal Warwickshire Regiment), T.A., at Astoff Park on 19th October.

The Princess Royal, Controller Commandant, inspected units of the Women's Royal Army Corps at North Camp, Glencorse, on 28th July, and subsequently took the Salute at a March Past.

On 29th July, the Princess Royal, Colonel-in-Chief, The Royal Scots, visited the Depot, Dreghorn.

The Princess Royal, Colonel-in-Chief, presented new Colours to the 5th Battalion, The West Yorkshire Regiment, T.A., at Imphal Barracks, York, on 9th August.

On 25th September, the Princess Royal, Controller Commandant, Women's Royal Army Corps, visited 46 (Mixed) Heavy Anti-Aircraft Regiment, Royal Artillery, at Hobbs Barracks, Lingfield. On 1st October, Her Royal Highness took the Salute at the Passing Out Parade of officer cadets at the W.R.A.C. School of Instruction, Huron Camp, Hindhead.

The Princess Royal presented Colours to the 17th Battalion, The Parachute Regiment (9th Battalion, The Durham Light Infantry), T.A., at Brancepeth Castle, Co. Durham, on 4th October.

The Queen has been graciously pleased to approve the following appointments:—

TO BE AIDE-DE-CAMP TO THE QUEEN.—Colonel (temporary Brigadier) W. G. Roe, C.B.E., A.M.I.Mech.E., late R.A.S.C. (20th March, 1952), vice Brigadier W. J. F. Eassie, C.B.E., D.S.O., promoted.

TO BE HONORARY NURSING SISTER TO THE QUEEN.—Brigadier Helen S. Gillespie, M.B.E., R.R.C., Matron-in-Chief and Director of Army Nursing Services, Q.A.R.A.N.C. (25th June, 1952), vice Dame Ann Thomson, D.B.E., R.R.C., Q.A.R.A.N.C., retired.

TO BE COLONELS COMMANDANT.—Of the Royal Regiment of Artillery, Major-General M. W. M. MacLeod, C.B., C.B.E., D.S.O. (15th September, 1952), vice General Sir Frederick A. Pile, Bart., G.C.B., D.S.O., M.C., tenure expired; of the Corps of Royal Engineers, General Sir Ouvry L. Roberts, K.C.B., K.B.E., D.S.O., A.D.C. (11th July, 1952), vice Lieut.-General Sir Clarence A. Bird, K.C.I.E., C.B., D.S.O., tenure expired; of the Intelligence Corps, Major-General F. H. N. Davidson, C.B., D.S.O., M.C. (4th October, 1952), vice General Sir Bernard C. T. Paget, G.C.B., D.S.O., M.C., resigned.

HONOURS AND AWARDS

KOREA.—The following award in recognition of gallant and distinguished services in

Korea during the period 1st January to 30th June, 1952, was included in a list published on 10th October in the second Supplement to *The London Gazette* of 7th October, 1952 :—

K.B.E.—Major-General A. J. H. Cassels, C.B., C.B.E., D.S.O.

MALAYA.—The following award in recognition of gallant and distinguished services in Malaya during the period 1st January to 30th June, 1952, was included in a list published on 21st October in the third Supplement to *The London Gazette* of 17th October, 1952 :—

C.B.—Brigadier (temporary) R. C. Cottrell-Hill, C.B.E., D.S.O., M.C.

ARMY COUNCIL

The Queen has been pleased by Letters Patent under the Great Seal bearing the date 11th August, 1952, to appoint the following to be Her Majesty's Army Council :—

Major (Honorary Brigadier) the Rt. Hon. A. H. Head, C.B.E., M.C.—*President.*

Honorary Colonel J. R. H. Hutchison, D.S.O., T.D., T.A.—*Vice-President.*

Field-Marshal Sir William J. Slim, G.C.B., G.B.E., D.S.O., M.C.

General Sir John T. Crocker, G.C.B., K.B.E., D.S.O., M.C.

General Sir Ouvry L. Roberts, K.C.B., K.B.E., D.S.O., A.D.C.

Lieut.-General Sir Nevil C. D. Brownjohn, K.C.B., C.M.G., O.B.E., M.C.

Lieut.-General Sir John F. M. Whiteley, K.C.B., C.B.E., M.C.

Sir George W. Turner, K.C.B., K.B.E.

APPOINTMENTS

WAR OFFICE.—The Reverend H. Dowd, M.B.E., appointed Principal Roman Catholic Chaplain to the Forces (24th August, 1952).

Colonel (temporary Brigadier) G. S. Thompson, D.S.O., M.B.E., appointed Director Land/Air Warfare, with the temporary rank of Major-General (December, 1952).

Lieut.-General A. D. Ward, C.B., C.B.E., D.S.O., appointed Deputy Chief of the Imperial General Staff (January, 1953).

Colonel (temporary Brigadier) R. C. Cottrell-Hill, C.B., C.B.E., D.S.O., M.C., appointed Director of Military Training, with the temporary rank of Major-General (January, 1953).

Major-General H. Redman, C.B., C.B.E., appointed Vice Chief of the Imperial General Staff, with the temporary rank of Lieut.-General (February, 1953).

Major-General C. D. Packard, C.B., C.B.E., D.S.O., appointed Vice Quartermaster General (February, 1953).

UNITED KINGDOM.—Brigadier C. H. Gurney, O.B.E., appointed temporary G.O.C., East Anglian District, with the temporary rank of Major-General (21st August, 1952).

Colonel (temporary Brigadier) R. G. Collingwood, C.B.E., D.S.O., appointed G.O.C., 52 (Lowland) Infantry Division, T.A., and Lowland District, with the temporary rank of Major-General (1st October, 1952).

Colonel (temporary Brigadier) J. Scott-Elliot, C.B.E., D.S.O., appointed G.O.C., 51 (Highland) Infantry Division, T.A., and Highland District, with the temporary rank of Major-General (November, 1952).

Major-General R. H. Bower, C.B., C.B.E., appointed Commander, East Anglian District (December, 1952).

Major-General C. B. Fairbanks, C.B., C.B.E., appointed Chief Army Instructor, Imperial Defence College (January, 1953).

Brigadier K. G. Exham, D.S.O., A.D.C., appointed Chief of Staff, Headquarters Western Command, with the temporary rank of Major-General (January, 1953).

Colonel (temporary Brigadier) R. A. Bramwell-Davis, D.S.O., appointed Chief of Staff, Scottish Command, with the temporary rank of Major-General (January, 1953).

S.H.A.P.E.—Major-General L. Wansbrough-Jones, C.B., C.B.E., appointed Principal Staff Officer to the Deputy Supreme Commander, Allied Powers in Europe (November, 1952).

GERMANY.—Major-General A. J. H. Cassels, K.B.E., C.B., D.S.O., appointed Commander I Corps, with the temporary rank of Lieut.-General (December, 1952).

AUSTRIA.—Major-General R. E. Urquhart, C.B., D.S.O., appointed G.O.C.-in-C., British Troops in Austria (23rd July, 1952).

MIDDLE EAST LAND FORCES.—Major-General R. A. Hull, C.B., D.S.O., appointed Chief of Staff (January, 1953).

WEST AFRICA.—Major-General G. H. Inglis, C.B., C.B.E., appointed G.O.C., Nigeria District (November, 1952).

KOREA.—Major-General S. N. Shoosmith, C.B., D.S.O., O.B.E., appointed a Deputy Chief of Staff to the Supreme Commander, United Nations Forces, Korea (27th August, 1952).

Major-General M. M. Alston-Roberts-West, C.B., D.S.O., appointed Commander, Commonwealth Division (7th September, 1952). Substituted for the notification in the August, 1952, JOURNAL.

PROMOTIONS

Generals.—Lieut.-Generals to be Generals:—Sir Kenneth N. Crawford, K.C.B., M.C. (5th February, 1952); Sir Richard N. Gale, K.B.E., C.B., D.S.O., M.C. (6th June, 1952); Sir Cameron G. G. Nicholson, K.B.E., C.B., D.S.O., M.C. (8th September, 1952).

Lieut.-Generals.—Temporary Lieut.-Generals or Major-Generals to be Lieut.-Generals:—Sir Francis W. Festing, K.B.E., C.B., D.S.O. (6th February, 1952); Sir Colin M. Barber, K.B.E., C.B., D.S.O. (27th February, 1952); A. D. Ward, C.B., C.B.E., D.S.O. (6th June, 1952); J. D. Woodall, C.B., O.B.E., M.C. (13th August, 1952); E. E. Down, C.B., C.B.E. (8th September, 1952).

Major-General to be temporary Lieut.-General:—E. E. Down, C.B., C.B.E. (1st August, 1952).

Major-Generals.—Temporary Major-Generals, Brigadiers, or Colonels to be Major-Generals:—B. A. Coad, C.B.E., D.S.O. (6th February, 1952); J. C. Walkey, C.B.E. (27th February, 1952); W. J. F. Eassie, C.B.E., D.S.O. (20th March, 1952); D. C. T. Swan, C.B.E. (26th March, 1952); J. M. W. Martin, C.B.E. (9th May 1952); B. C. Davey, C.B., C.B.E. (14th May, 1952); C. L. Firbank, C.B.E., D.S.O. (30th May, 1952); M. S. Wheatley, C.B.E., A.M.I.E.E. (6th June, 1952); B. Churcher, C.B., D.S.O., A.D.C. (13th August, 1952); W. E. G. Hemming, C.B.E. (8th September, 1952); K. Bayley, C.B.E., A.D.C. (15th September, 1952).

Brigadiers or Colonels to be temporary Major-Generals:—T. Brodie, C.B., D.S.O. (26th July, 1952); H. H. C. Sugden, C.B.E., D.S.O. (3rd August, 1952); C. H. Gurney, O.B.E. (21st August, 1952); W. R. Goodman, D.S.O., M.C. (1st October, 1952); R. G. Collingwood, C.B.E., D.S.O. (1st October, 1952).

RETIREMENTS

The following General Officers have retired:—Lieut.-General Sir Reginald F. S. Denning, K.B.E., C.B. (13th August, 1952); General Sir G. Ivor Thomas, G.C.B., K.B.E., D.S.O. (8th September, 1952); Major-General B. Temple, C.B., C.M.G., O.B.E., M.C. (15th September, 1952).

The Right Reverend Monsignor Clarke, C.B.E., Principal Roman Catholic Chaplain to the Forces (24th August, 1952).

PRE-SANDHURST COLLEGE AT WELBECK ABBEY

The War Office announced in June that part of Welbeck Abbey, Nottinghamshire, would be opened in 1953 as a college for boys between 16 and 18 years of age who, after a two years' course, would go on to Sandhurst to take commissions in technical corps. The college, to be known as Welbeck College, would be run on the lines of a civilian school, with a board of governors and a civilian staff; tuition would be free, but fees for maintenance would be scaled according to parents' means.

The Secretary of State for War, Mr. Head, explained on the same day that Welbeck College, which would accommodate 75 boys in the first year and 150 later on, was primarily intended for boys from the North of England and Scotland and from grammar and secondary schools, few of whom at present joined the Army as officers. It would provide a general education with a technical and scientific basis and would enable students, on the headmaster's recommendation, to pass into Sandhurst without taking the usual entrance examination. The selection board for the college would have a large civilian element, and the board of governors would include representatives of education, industry, the T.U.C., and Scotland.

ARMY RECRUITING

ARMY RECRUITING STAFF.—As part of the re-organization of the army recruiting service a scheme was started on 1st August and is to be completed by 1st August, 1953, by which recruiting in the future will be carried out by serving soldiers. In the past this work has been performed by army pensioners. A number of these have now been re-enlisted in their old regiments and corps. The remainder of the staff, who will be volunteers, will be young men between 24 and 32 years of age and will be drawn proportionately from different arms of the service.

Army recruiters will be given rank from serjeant to warrant officer class I. The older men will remain with the recruiting staff until they reach the age of 55. For the young Regular non-commissioned officers the tour of duty will be for two years, and they will then return to their regiments and corps. All will work under the recruiting officers stationed in Home Commands.

ARMY RECRUITING IN SEPTEMBER.—The Regular Army recruiting statistics for September show that the total number of enlistments from civil life during the month were 3,719 men and 747 boys (including the half-yearly intake of apprentice tradesmen) compared with 3,258 and 110 in July and 3,398 and 77 in August. The figures for re-enlistments were 13 from Short Service (July, 33; August, 23) and 691 from National Service (July, 871; August, 745).

TERRITORIAL ARMY EXERCISES

264TH (SCOTTISH) BEACH BRIGADE, T.A.—Two of the largest Beach Group exercises to be held since the last war were carried out this Summer by 264th (Scottish) Beach Brigade, T.A., at Crow Point, near Barnstaple.

This highly complicated formation, consisting of three infantry battalions and a number of technical and other units, was brought up to a strength of nearly 7,000 men by "Z" reservists. At this strength it was much too large to fit into the local camps, but as it is organized in two identical groups, it was possible to train the Brigade in two instalments. The exercises involved assault landings and the transfer of stores, ammunition, and supplies from coasters to a beach maintenance area some distance inland.

27TH ENGINEER GROUP, T.A.—Brought up to strength, chiefly by "Z" reservists, 27th Engineer Group, T.A., carried out their Summer training this year based on Penhale on the North Cornish coast. Squadrons of the Engineer Regiments in this Group, which are capable of operating independently for long periods, were exercised in mine laying and lifting, demolitions, bridging, etc., and beginners were instructed in the use of heavy mechanical units such as bulldozers, excavators, and graders. Tactical exercises were also included. No. 316 Squadron, 121st Engineer Regiment, T.A., completed a "double-

single " class 40 Bailey bridge at Barbrook, above Lynmouth, under extremely difficult conditions owing to lack of room in the narrow gorge.

KING'S GURKHA OFFICERS

Her Majesty the Queen has been graciously pleased to approve that King's Gurkha officers shall be redesignated Queen's Gurkha officers, with rank titles Lieutenant (Q.G.O.), Captain (Q.G.O.), and Major (Q.G.O.).

This change applies to all King's Gurkha officers and not only to those commissioned since the death of His late Majesty King George VI.

WAR MEMORIALS

MONS.—On 12th October, in the presence of King Baudouin, a Memorial to the British and Canadian soldiers killed at Mons in the first and last battles of the 1914-18 War was unveiled by Field-Marshal Lord Alexander, the Minister of Defence. The British Ambassador, Sir Christopher Warner, the Canadian Ambassador, General Maurice Pope, and the Belgian Prime Minister were present.

43RD WESSEX DIVISION.—A Memorial which perpetuates the memory of the men who fell in action with the 43rd (Wessex) Division during the 1939-45 War, and which stands on the side of the cutting at Wynyard's Gap between Crewkerne and Dorchester, was unveiled by General Sir Ivor Thomas on 20th September. A cushion upon which to rest the Roll of Honour of the Division, which had been previously handed to the Dean and Chapter for safe keeping, was presented to the Dean of Salisbury by General Sir Ivor Thomas in Salisbury Cathedral on the same day.

MISCELLANEOUS

SECRETARY OF STATE FOR WAR VISITS MIDDLE EAST.—The Secretary of State for War, Mr. Head, left by air on 14th September for the Middle East Command. The object of his tour was to see for himself the conditions under which the troops in the Command are living. He visited the Canal Zone, Cyprus, Cyrenaica, and Tripoli.

VISIT OF THE C.I.G.S. TO S.H.A.P.E.—Field-Marshal Sir William Slim, Chief of the Imperial General Staff, visited Supreme Headquarters, Allied Powers in Europe, on 22nd August as the guest of General Ridgway. He spoke for about an hour to the whole staff on the subject of "Global strategy as seen from the British point of view." Later in the day he left by air for Germany for a three-day visit to the British Zone.

THE DORSET REGIMENT'S 250TH ANNIVERSARY.—The Dorset Regiment celebrated its 250th anniversary with a three-day searchlight tattoo which opened at Dorchester on 27th August. On 29th August, the 1st Battalion, in Dorchester for the first time for 148 years, paraded the Colours through the town and attended a civic ceremony.

THE NORTHAMPTONSHIRE REGIMENT LEAVES TRIESTE.—On 4th September, the 1st Battalion, The Northamptonshire Regiment, marched through Trieste before leaving for Germany. The Battalion had been in Trieste for three years. The 1st Battalion, The Suffolk Regiment, replaces them.

VICTORIA CROSS PRESENTED TO REGIMENT.—On 13th August, the Victoria Cross awarded posthumously to Lance-Corporal John Pennington Harman for gallantry at Kohima in April, 1944, was presented to The Queen's Own Royal West Kent Regiment by his father, Mr. M. C. Harman. The ceremony took place during a passing out parade of a group of National Service men at the Regimental Depot at Maidstone.

GIFT TO KING HAakon.—In commemoration of King Haakon's fiftieth anniversary as Honorary Colonel of The Norfolk Yeomanry, the Commanding Officer, Lieut.-Colonel G. L. Rampling, presented the King with an inscribed silver mug decorated with the Norwegian coat of arms and the Regiment's emblem. The mug is a copy in half size of King Charles II's beer mug, which is in the Regiment's possession.

WOMEN'S ROYAL ARMY CORPS.—On 30th September, three officers and 54 other

ranks of Anti-Aircraft Command—all Regulars—flew to Gibraltar to be absorbed in a battery of 54 A.A. Regiment, R.A., as operators in fire control, predictor minders, telephonists, plotters, drivers, and clerks.

NEW COLOURS FOR THE NIGERIA REGIMENT.—On 5th August, the Governor of Nigeria, Sir John Macpherson, on behalf of The Queen, presented new Colours to the 4th Battalion, The Nigeria Regiment, at a ceremonial parade at Ikeja.

DOMINIONS AND COLONIES

CANADA

APPOINTMENTS.—Brigadier J. E. C. Pangman, D.S.O., E.D., has been appointed Commander, 27th Canadian Infantry Brigade Group in Germany.

Brigadier G. Walsh, C.B.E., D.S.O., C.D., has been appointed Director-General of Military Training, succeeding Brigadier J. M. Rockingham, C.B., C.B.E., D.S.O., E.D., who will attend the next Imperial Defence College course in London.

ANTI-TANK DEFENCE.—It was announced from Ottawa on 8th October that the responsibility for anti-tank defence within the Canadian Army has been transferred from the Royal Canadian Artillery to the Royal Canadian Armoured Corps.

3RD BATTALION, PRINCESS PATRICIA'S CANADIAN LIGHT INFANTRY.—The 3rd Battalion, Princess Patricia's Canadian Light Infantry embarked in October to relieve the 1st Battalion in Korea. The 1st Battalion relieved the 2nd Battalion in Korea in the Autumn of 1951.

REFRESHER TRAINING FOR ARMY PILOTS.—Canadian Army Active Force officers who are qualified army light aircraft pilots but who are no longer on full-time flying duties may get as much as four hours' flying time each month to keep themselves up to date. To be eligible for refresher flying training, these officers must be qualified as air observation or air liaison pilots under army standards, and flying must be done in their own time. Thirty-six flying clubs are authorized by Army Headquarters to conduct this training.

MILITARY EQUIPMENT SENT TO EUROPE.—Sufficient guns to equip five field artillery regiments were sent from Canada to the Italian Army in August. The shipment included 74 towed and 54 self-propelled 25-pounder guns, 148 limbers, maintenance stores, and sighting equipment. Anti-aircraft guns, stores, and ammunition for the Portuguese Army, and mortar bombs for the Belgian Army were shipped in October.

AUSTRALIA

APPOINTMENTS.—Major-General E. L. Sheehan, C.B.E., at present Deputy Chief of the General Staff, is to be seconded to the Department of Defence and appointed Australian Defence Representative in London.

Major-General A. R. Garrett, C.B.E., at present G.O.C., Western Command, is to become Deputy Chief of the General Staff.

Major-General R. Bierwirth, C.B.E., at present Australian Defence Representative in London, is to become G.O.C., Western Command.

REGIMENTAL ALLIANCES.—Her Majesty The Queen has graciously approved the alliance of the 1st, 2nd, and 3rd Battalions, Royal Australian Regiment, with the Grenadier, Coldstream, and Scots Guards respectively.

Her Majesty has also approved the following alliances for Citizen Military Force units:—58th/32nd Battalion (The Melbourne Rifles) with The Lake Superior Regiment (M), Canadian Army; and 27th Battalion (South Australian Scottish Regiment) with The Seaforth Highlanders (Ross-shire Buffs, The Duke of Albany's).

CITIZEN MILITARY FORCES EXPANSION.—It was announced in August by Mr. Joseph Francis, the Minister for the Army, that new Citizen Military Force units approximating another division, with supporting army, corps, and administrative troops, would be

raised by the end of 1953. These new units will be needed when existing C.M.F. units are filled to capacity with National Service men doing their three-year C.M.F. service after completing the initial 14-weeks training in National Service battalions. The number of National Service men undergoing C.M.F. training will reach its peak by August, 1954, and then remain constant.

This increase in the number of units would mean welcome restoration to the Australian Army List of some units which had been dropped from it during post-war reorganization.

CITIZEN MILITARY FORCE OFFICERS FOR KOREA.—Selected officers of the C.M.F. are being given an opportunity to visit Korea to further their training preparation while attached as observers to the Australian units serving with the British Commonwealth Division. Their tour of duty as observers is approximately three weeks.

INDIA

NEW COMMANDER-IN-CHIEF

It was announced by the Government of India on 18th August that Lieut.-General Maharaja Rajendrasinhji will succeed General K. M. Cariappa as Commander-in-Chief of the Indian Army. He will take over from General Cariappa on 15th January, 1953.

PAKISTAN

CORPS ALLIANCE

Her Majesty The Queen has been graciously pleased to approve an alliance between the Corps of Royal Pakistan Engineers and the Corps of Royal Engineers.

FOREIGN

NEPAL

THE KING OF NEPAL APPOINTED HONORARY GENERAL

Her Majesty the Queen has been graciously pleased to appoint His Majesty Tribhubana Bir Bikram Shah, Maharajadhiraja of Nepal, to be Honorary General, with effect from 1st July, 1952.

UNITED STATES

SENIOR ARMY OFFICERS VISIT CANADA.—A party of 16 senior United States officers arrived at Rockcliffe, Canada, on 24th August for an eight-day tour of Canadian military and industrial installations. The object of such tours is to acquaint senior United States officers with Canada, to familiarize them with Canadian Army practices, and to show them something of Canada's industrial potential.

UNITED STATES FIELD BAND VISITS EUROPE.—The United States Field Band, composed of approximately 100 musicians and including a 40-voice choir, arrived at Southampton on 2nd August. After giving several concerts in the United Kingdom during August, the band left for the Continent, where it visited a number of European cities and N.A.T.O. troop concentrations.

AIR NOTES

GREAT BRITAIN

H.M. THE QUEEN

Her Majesty presented a Queen's Colour to No. 1 School of Technical Training at Halton on 25th July. Her Majesty has also approved the award of a Queen's Colour to the Royal Air Force Regiment. This will be the fourth Royal Colour to be awarded to the Royal Air Force.

On 2nd September, the Duke of Edinburgh flew in a Viking of the Queen's Flight to Blackbushe. From there he travelled by car to Farnborough to view the Society of British Aircraft Constructors Flying Display and Exhibition.

CAPTAIN OF THE QUEEN'S FLIGHT.—Air Commodore Sir Edward H. Fielden, K.C.V.O., C.B., D.F.C., A.F.C., has been appointed Captain of the Queen's Flight (5th August, 1952).

HONORARY DENTAL SURGEON.—Group Captain R. Scoggins, L.D.S., has been appointed Honorary Dental Surgeon to the Queen (15th May, 1952).

APPOINTMENTS

AIR MINISTRY.—Air Vice-Marshal A. W. B. McDonald, C.B., A.F.C., appointed Director-General of Manning (September, 1952).

Air Vice-Marshal R. O. Jones, C.B., A.F.C., appointed Controller of Engineering and Equipment, with the acting rank of Air Marshal (October, 1952).

INSPECTORATE-GENERAL.—Air Vice-Marshal S. C. Strafford, C.B., C.B.E., D.F.C., appointed Inspector-General, with the acting rank of Air Marshal (October, 1952).

BOMBER COMMAND.—Air Vice-Marshal G. H. Mills, C.B., D.F.C., to be Air Officer Commanding-in-Chief, with the acting rank of Air Marshal (April, 1953).

Air Commodore S. O. Bufton, C.B., D.F.C., appointed Air Officer in charge of Administration, with the acting rank of Air Vice-Marshal (September, 1952).

TECHNICAL TRAINING COMMAND.—Air Vice-Marshal N. H. D'Aeth, C.B., C.B.E., appointed Officer in charge of Administration (October, 1952).

Air Commodore J. G. Franks, C.B.E., appointed Air Officer Commanding No. 24 Group, with the acting rank of Air Vice-Marshal (September, 1952).

ROYAL AIR FORCE REGIMENT.—Air Vice-Marshal Sir Francis J. W. Mellersh, K.B.E., A.F.C., appointed Commandant-General and Inspector of Ground Combat Training (October, 1952).

IRAQ COMMAND.—Air Vice-Marshal J. G. Hawtrey, C.B.E., appointed Air Officer Commanding (August, 1952).

PROMOTION

Air Commodore W. J. M. Akerman, C.B.E., has been granted the acting rank of Air Vice-Marshal (6th August, 1952).

RETIREMENTS

Air Marshal Sir Hugh S. P. Walmsley, K.C.B., K.C.I.E., C.B.E., M.C., D.F.C., has been placed on the Retired List at his own request (1st August, 1952).

Air Vice-Marshal R. A. George, K.B.E., C.B., M.C., has been placed on the Retired List at his own request (26th June, 1952).

Air Vice-Marshal A. H. Robson, C.B., O.B.E., M.C., M.Sc., Ph.D., has relinquished his temporary commission, retaining his rank (29th August, 1952).

Air Vice-Marshal Sir Colin W. Weedon, K.B.E., C.B., M.A., M.I.Mech.E., A.F.R.Ae.S., has been placed on the Retired List, retaining the rank of Air Marshal (2nd September, 1952).

Air Vice-Marshal F. N. Trinder, C.B., C.B.E., has been placed on the Retired List (6th October, 1952).

OPERATIONS

OFFENSIVE SORTIES AND PATROLS.—During July, August, and September many hundreds of offensive sorties and patrols were carried out in Malaya by R.A.F. Brigands, Hornets, Vampires, and Sunderlands. Target areas were well dispersed throughout the Federation, but the majority of air strikes took place in the States of Perak and Johore. During the same three months, 60 casualties were evacuated from jungle clearings by the Far East Casualty Evacuation Flight.

R.A.F. REGIMENT (MALAYA).—Since the R.A.F. Regiment sent its first squadron to take part in the operations against bandits in the jungle, it has inflicted the following losses on enemy forces: 16 killed, 14 wounded, and 32 captured. In addition, well over 100 major camps and food dumps have been destroyed.

FLIGHTS

CANBERRA'S DOUBLE ATLANTIC CROSSING IN EIGHT HOURS.—An English Electric Canberra jet bomber on 26th August flew from the R.A.F. airfield at Aldergrove, Northern Ireland, to Newfoundland and back in 7 hours 59 minutes flying time. This flight achieved two unofficial records—the fastest West-to-East crossing and the double crossing. The return journey, in 3 hours 25 minutes at an average speed of 606 m.p.h., was by far the fastest Atlantic crossing in either direction. The outward journey took 4 hours 34 minutes, and the average speed was 456 m.p.h. This compared with the record of 4 hours 18 minutes set up by another Canberra on 31st August last year. The aircraft which made the flight is a B Mark V production type, powered by two Rolls-Royce Avon engines of the kind used in the Mark II longer-range Comet.

Mr. R. P. Beamont, aged 32, the firm's chief test pilot, was in charge, and with him were Mr. P. Hill Wood, also a test pilot, and Mr. D. A. Watson, the navigator. Mr. Hill Wood flew the Canberra on the homeward journey. Mr. Beamont also piloted the Canberra which set up the East-to-West record last year, and Mr. Watson was his navigator.

MORE CANBERRA RECORDS.—Two new record long-distance flights have been set up to the credit of Canberras. On Thursday, 25th September, the first machine took off from Binbrook for Malta with Air Vice-Marshal D. M. Boyle, A.O.C. No. 1 Group, Bomber Command, at the controls. His navigators were Flying Officer R. B. Brownlow (his P.A.) and Sergeant T. Cramp. The outward flight took exactly three hours, Luqa being reached at 12.00 hours B.S.T. By 14.10 hours, the aircraft was airborne again on the return flight to Binbrook, which was completed at 17.15 hours B.S.T. The journey of 2,914 miles was made at an average speed of 485 m.p.h., the total flying time being 6 hours 5 minutes. On 28th September, a Canberra B2 (bearing No. 12 Squadron crest), flown by Wing Commander H. P. Connolly (O.C. Flying at Binbrook), and navigated by Squadron Leader D. Clare, took Air Chief Marshal Sir Hugh P. Lloyd, A.O.C.-in-C. Bomber Command, from London Airport to Eastleigh, Nairobi. This flight was officially observed by the Royal Aero Club and, subject to confirmation by the F.A.I., will constitute a record of 9 hours 55 minutes 16.7 seconds, which represents an average speed of 427.3 m.p.h.

TRAINING

AIR DEFENCE EXERCISE.—Exercise "Ardent," the largest air defence exercise ever held over Britain, took place in three phases during October. The object of the exercise was to subject the United Kingdom air defences to intensive operations such as might

be experienced in war. The U.K. defences were under the command of Air Marshal Sir Basil Embry, A.O.C.-in-C. Fighter Command. In addition to Bomber Command, simulated attacks were made by Allied Air Forces Central Europe, U.S.A.F. 7th Air Division and 3rd Air Force, Royal Naval aircraft, Transport Command, and Flying Training Command. During the exercise more than 6,000 sorties were flown by attacking and defending aircraft. This exercise is regarded as the most successful held since the war, and the use of new equipment by both sides made it possible to test all aspects of the Country's defences against air attacks. In summing up "Ardent," Air Chief Marshal Sir Ralph Cochrane made the following points:—

(i) Not only had a satisfactory number of interceptions been made, but it had been found possible to tackle the bombers farther from their targets—often some distance from the coast.

(ii) The exercise had also been most valuable for Bomber Command. The use of Canberra jet bombers had, for the first time, permitted new operational methods and tactics to be employed.

ROYAL AIR FORCE COMPETE IN AMERICAN BOMBING CONTEST.—Washington and Lincoln aircraft of R.A.F. Bomber Command left Prestwick on Sunday, 28th September, to take part in the United States Air Force Strategic Air Command bombing competition which was held at Davis-Monthan Air Force Base, Tucson, Arizona. They competed at the invitation of General Curtis Le May, Commanding General, Strategic Air Command.

Two Washington crews from R.A.F. Stations Marham and Coningsby were selected to represent No. 3 Group, Bomber Command, and two Lincoln crews from Hemswell to represent No. 1 Group. The Lincolns took part on a non-competitive basis for comparative purposes.

Aircraft of the 7th Air Division, U.S.A.F. Strategic Air Command, based in England, took part in the R.A.F. Laurence Minot Trophy bombing competition in July.

R.A.F. SHACKLETONS IN 11,800-MILE TRAINING FLIGHT.—During August, six Shackleton aircraft of No. 224 Squadron, R.A.F. Coastal Command, at Gibraltar, carried out an 11,822-mile goodwill and training flight to Ceylon and back.

MATERIEL

A DELTA FIGHTER (see Frontispiece).—The Gloster GA-5 Javelin all-weather fighter is a delta-wing aircraft with two Armstrong Siddeley Sapphire turbojets mounted in the wing roots. These engines have been type-tested at 8,300-lb. thrust, so that the Javelin can call upon a total of 16,600 lb.

The aircraft meets the specification issued by the Air Staff for an all-weather day and night fighter equipped with automatic navigating and fighting devices. The crew consists of two, a pilot and a navigator or radar operator. The wing span is 52 feet and the length 57 feet. The Javelin has a small horizontal tailplane, also of delta-plan form. It should be capable of supersonic speed in a dive and might be able to fly at Mach 1, or the speed of sound, in straight and level flight if re-heat can be fitted to the engine.

The Service importance of this fighter is great because it will test the delta-form in ordinary use. The theoretical argument for and against it has so far seemed almost evenly matched. In favour of the delta is the fact that all components, including engines, undercarriage, fuel tanks, and a radio and radar equipment, can be carried within a single envelope with smooth exterior surfaces. Control and powers of manœuvre seem to be as good with the delta as with the conventional wings and fuselage arrangement, but here again Service experience will be the final test.

THE AVRO DELTA BOMBER.—Points of interest on the Avro 698 bomber are the 'pillar box' intakes for the four Rolls-Royce Avons, wherein bifurcation is visible just aft of the leading edge. There is a pronounced shoulder between the inboard lip of the intake duct—where there is a boundary layer guard—and the fuselage. The 698 carries

a ribbon braking-parachute in the tail-cone. In side elevation there is a very pronounced sweep-down of the top fuselage line to the nose, but the lower fuselage line appears perfectly straight. The broad bomb-bay extends for about one-third of the fuselage length. Paired, gate-type air brakes are positioned on the wing in way of the turbojet fairings, a few feet aft of the leading edge, on upper and lower surfaces. The small area of transparency in the cockpit enclosure indicates a very high level of pressurization. The Air Council has decided to name this aircraft the "Vulcan."

THE SAUNDERS-ROE PRINCESS MAKES FIRST FLIGHT.—Britain's largest flying-boat, the Saunders-Roe Princess, made her maiden flight from Cowes, Isle of Wight, on 22nd August. Thousands of holiday-makers saw the 140-ton aircraft circle over Newport, and many more heard her ten turbojet engines up to five miles away. Mr. G. Tyson, the Company's chief test pilot, flew the craft for about half an hour.

Sir Miles Thomas, Chairman of B.O.A.C., who flew alongside the Princess, said afterwards: "This maiden flight of the Princess is another important step forward in British civil aviation and a tribute to Saunders-Roe, her builders, and the men at Bristol who made her turbo-prop engines. B.O.A.C. is tremendously interested in the commercial application of the Princess and wants to co-operate in the development flying which, of course, will have to be done outside the normal financial accountability of the Corporation until the fleet of Princesses have obtained their full Certificates of Airworthiness." The Minister of Supply, Mr. Duncan Sandys, sent a telegram of warmest congratulations to the Company.

MISCELLANEOUS

SECRETARY OF STATE FOR AIR TOURS MIDDLE EAST.—During August, Lord De L'Isle and Dudley, V.C., made an extensive tour of Royal Air Force units in the Middle East.

CHIEF OF THE AIR STAFF DESIGNATE TO TOUR OVERSEAS BASES.—Before taking up his appointment in January, 1953, Air Chief Marshal Sir William F. Dickson will visit Royal Air Force units of the Middle East Air Force and the Far East Air Force. He will also visit Pakistan, India, Indonesia, Australia, New Zealand, Canada, and the United States.

BATTLE OF BRITAIN WEEK.—The annual celebrations of the Battle of Britain took place throughout the Royal Air Force between 15th and 21st September. To start the celebrations on 15th September a lone Hurricane, as usual, flew from an unnamed aerodrome, with an unnamed Battle of Britain pilot at the controls, to be the first across the London sky. Within a few minutes it was succeeded by 187 Service jet aircraft, the largest force of this type ever seen over London, and by the Hunter jet fighter flown by Mr. Neville Duke, Hawker's chief test pilot. On 20th September, 76 R.A.F. Stations in the United Kingdom were open to the public. The celebrations ended with a thanksgiving service in Westminster Abbey on Sunday, 21st September.

FLYING ACCIDENT RATE DECREASED.—The flying accident rate has decreased every year since the R.A.F. began to fly jets on a large scale in 1947. In the first six months of this year, twice as many jet hours were flown by the R.A.F. as in the same period last year, but the total jet accidents increased by only 15 per cent. There are fewer jet crashes than with piston-engined types.

TROOPING BY FLYING-BOAT.—Chartered by the Air Ministry to relieve pressure on troopships, an Aquila Airways Solent flying-boat left for Singapore from Southampton Water on Saturday, 9th August, with 17 Service men, 19 wives, and 17 children on board. Three experimental flights will be made. If they are successful, the service will be continued. The journey will take six days compared with a month by troopship.

COST OF PILOT TRAINING.—The cost to the State of the training and flying experience of a highly qualified pilot, a squadron leader of some five or six years' experience, is £98,000. This estimate includes some £15,000 for his training as a jet fighter pilot and

£70,000 for the cost of subsequent operational flying. The remaining sum covers pay, allowances, etc.

GORDON SHEPARD MEMORIAL PRIZE ESSAY COMPETITION.—The subject for the Gordon Shepard Memorial Prize Essay Competition, 1952-53, is as follows:—

"It is unlikely that in the next war we shall be given a period in which to prepare, such as occurred at the beginning of World War II. Our reserves in both air and ground crews must therefore be kept up to a high state of efficiency so that they can be mobilized and brought into action at once.

"In view of the very high degree of skill required to operate and maintain modern aircraft it is becoming increasingly difficult to keep our reserves up to front-line standards. Discuss the problems involved in keeping the reserve force up to date and in full practice, and indicate how you consider the difficulties can be overcome."

Full particulars of the competition are contained in Air Ministry Order No. 169/52.

R.A.F. WINGS FOR WOMAN PILOT.—The first pilot in the Women's Royal Air Force Volunteer Reserve to be awarded R.A.F. wings, Pilot Officer Jean Lennox Bird, aged 40, was presented with them at a parade at No. 15 Reserve Flying School, Redhill, on 20th September. The presentation was made by Air Marshal Sir Ronald Ivelaw-Chapman, Air Officer Commanding-in-Chief, Home Command. Pilot Officer Bird has flown about 3,000 hours in more than 90 different types of aircraft, including large numbers of operational types. Not only does she hold a senior commercial pilot's licence, but she also holds a full instructor's licence, a civil navigation and radio-telephony licence, a Silver C gliding certificate, and has been recognized by the Royal Aero Club and appointed an official observer. She holds the highest form of R.A.F. instrument-flying certificates.

DOMINIONS AND COLONIES

CANADA

ALLIED AIR FORCES CENTRAL EUROPE.—Air Vice-Marshal J. L. Plant, C.B.E., A.F.C., has been promoted to the status of one of General Norstad's three major deputies.

COMMAND OF AIR DIVISION OVERSEAS.—Air Vice-Marshal H. L. Campbell, C.B.E., has been appointed Air Officer Commanding the R.C.A.F.'s Air Division overseas.

OPENING OF NEW STATION.—No. 2 Advanced Flying School, now at MacDonald, Manitoba, is moving to a new station, Portage le Prairie, in November.

NEW SQUADRON.—A new Maritime Reconnaissance Squadron, No. 407, is now being formed at R.C.A.F. Station, Comox, B.C. It is being equipped with Lancaster aircraft.

AUSTRALIA

QUEEN'S COLOUR FOR R.A.A.F.—The Royal Australian Air Force received the Queen's Colour at a ceremonial parade at Laverton, Australia, on 17th September. The Air Minister handed over the Colour in the absence of the Governor-General.

AIR OFFICER COMMANDING MALAYA.—The Australian Prime Minister has announced that the Governments of the United Kingdom and the Commonwealth of Australia have agreed to the appointment of a R.A.A.F. officer, Air Vice-Marshal F. R. W. Scherger, C.B.E., D.S.O., A.F.C., as Air Officer Commanding Malaya. Air Vice-Marshal Scherger will take up his appointment on 1st January, 1953.

R.A.A.F. IN MALAYA.—During July, Lincoln bombers of No. 1 R.A.A.F. Squadron flew a total of 71 offensive sorties—10 of which were by night. Dakotas of No. 38 Squadron dropped over 50,000 lb. of supplies to isolated police posts in southern and eastern Malaya.

R.A.A.F. METEORS IN KOREA.—No. 77 R.A.A.F. Squadron has flown its 10,000th operational sortie over Korea. In 20 months' operations, this unit has caused much damage behind the Communist lines. It has also destroyed three MIG-15s, probably destroyed another, and has damaged four others.

AUSTRALIAN WING FOR MALTA.—No. 78 Fighter Wing is stationed at Malta for two years as a contribution to the defence of the Middle East. The Wing is flying Vampire 9 jet fighters.

DELIVERY OF AUSTRALIAN-BUILT JETS.—The Royal Australian Air Force expects to take delivery of its first Australian-made jet bomber, the Canberra, in January. Delivery of the first Australian Sabre fighter is expected a few months later. Tooling-up for the production of the British Avon jet engine, which will be used in both aircraft, is completed, and the first engine should be ready in March. However, the engines brought from Britain will be used in the first aircraft, as full production of 12 engines a month is not expected at the Australian factory until late next year. In Sydney, the de Havilland Aircraft Co. has completed 56 of an order for 80 Vampire jet fighters for the R.A.A.F., and has begun a new order for 29 twin-seater Vampires which will be used for training pilots. Twenty-five of these will go to the R.A.A.F.

PAKISTAN

CHIEF OF STAFF

The Air Ministry has made available to the Government of Pakistan the services of Group Captain L. E. Jarman, D.F.C., R.A.F., as Chief of Staff, Royal Pakistan Air Force, with the acting rank of Air Commodore. He succeeds Air Commodore G. B. Keily, D.F.C., A.F.C., who has returned to the United Kingdom and has become a Sector Commander in Fighter Command.

FOREIGN

BELGIUM

MILITARY SERVICE

The Air Force has about 5,000 conscripts at present, which figure does not vary greatly from year to year. These conscripts, though they are 50 per cent. airfield defence and Air Force Regiment (the remainder being clerks, G.C.I. personnel, operations room staff, teleprinter and telephone operators), do help the acute manning problem at present in the Belgian Air Force. With the 1952-53 expansion programme in progress and the difficulties of getting recruits either for aircrew or ground crew, the temporary reduction in the military service period from 24 to 21 months is bound to lead to a worsening in these trades. It is thought that the Belgian Air Force will in future allot fewer conscripts to regimental and air defence duties, so as to reduce the impact on the other trades.

FRANCE

NEW NIGHT FIGHTER

It is reported that the Dassault 453 will make its first flight in the near future. The M.D. 453 is a two-seater night fighter derivation of the M.D. 452 (Mystère), and is powered by a Hispano Suiza Tay.

EGYPT

DISMISSAL OF AIR FORCE COMMANDER.—The military *coup* in July was followed by the dismissal of the commander of the Royal Egyptian Air Force, Major-General Mohamed Mustafa el-Sharawi, and many other senior officers. The new commander is Air Commodore Hassan Mahmoud, who had been Air Attaché at the Egyptian Embassy in London since 1946. Air Commodore Mahmoud learned to fly at Abu Sueir in 1933, and in the course of his career in the R.E.A.F. he has commanded operational, training, and technical units.

EGYPTIAN-BUILT AIRCRAFT.—The first Egyptian-built aircraft recently made its initial flight. The aircraft was a German-designed Bücker Bestmann monoplane trainer which had been built at a factory near Cairo. The test flight was reported to have been successful, and it is expected that trainers of this type will be built for use by the R.E.A.F.

ITALY

AERONAUTICAL EXHIBITION

The Aeronautical Exhibition, held from 14th to 23rd September at Forlanini Airport, Milan, was no doubt an attempt to carry on the traditions of the famous pre-war Milan Aero Show. The exhibits were arranged in a large newly constructed hangar on the airport. In addition to production models and prototypes from the revived Italian industry, the Ministry of Defence contributions included many original aircraft from pioneer days and some famous aircraft of the inter-war years. These exhibits ranged from one of the S.V.A. biplanes used in the Vienna propaganda raid in 1918 to the D.H. Vampire built under licence.

The majority of the major Italian aircraft companies were represented. Fiat showed their recent G.46 and G.59 photographic trainers and the new G.80 jet trainer, while the Mardi Company of Milan presented a new twin-boom amphibian of extremely small dimensions, the F.N.333. The French firm of Turboméca which was showing one of its small jet engines, a Swiss instrument company, a German parachute firm, and the American helicopter firm of Sikorsky, Hiller and Bell, were the only foreign exhibitors.

There was no flying display during the exhibition, with the exception of a formation fly-past on the first day by 24 Thunderjets flown by Italian pilots.

In spite of the small number of foreign participants and the fact that, in relation to the Farnborough and Paris exhibitions, it was considered unimpressive, the Mostra dell'Aeronautica did succeed in creating a great deal of interest in the aircraft industry among the Italian people.

JAPAN

U.S. TRAINER TO BE BUILT

Fletcher Aviation Corporation of Pasadena has arranged with a Japanese company to manufacture its single-engined trainer in Japan under licence. The agreement is now being discussed. So far as it is known, this is the first granting of manufacturing rights by a U.S. aircraft company to Japan since the signing of the peace treaty.

THE NETHERLANDS

FOKKER TRAINING AIRCRAFT

The Managing Director of Fokkers Aviation has stated that the American Government is organizing a competition for jet trainer aircraft, and that the Fairchild Corporation has applied to Messrs. Fokkers for permission to submit details of the S.14 (two-seater, side by side, advanced jet trainer) as an entrant in their name to this competition, presumably with the intention of obtaining permission to build the aircraft under licence should it succeed in the competition.

Mr. Vos said that the Netherlands Government have given permission to release full drawings and other details about the aircraft for this purpose. It is known that Fokker is trying very hard to get its S.14 adopted as a standard jet trainer for N.A.T.O. air forces. Twenty of these aircraft have been ordered by the Netherlands Government for training Dutch pilots.

NORWAY

AIR BASES

Mr. Langholle, the Norwegian Defence Minister, in a Press interview stated that although Allied Air Forces had made use of Norwegian bases during Exercise "Mainbrace," this did not in any way mean that Norway had changed her policy towards foreign

powers using defence bases of any kind in Norway in peace-time. All it meant was that Norway could take part in Allied manoeuvres and receive short visits by Allied Naval and Air Forces in peace-time.

RUSSIA

MIGS IN GERMANY.—Latest reports indicate that the Soviet Air Force now has some 700 MIG-15 day interceptors and 100 MIG-15F all-weather fighters based in Eastern Germany. All the MIG-15Fs are at Rechlin. The day fighters have six main bases—Dresden, Döberitz-Elshgrund, Finow, Grossesdahn, Peenemünde, and Werneuchen—and seven subsidiary bases—Dessau, Dresden-Neustadt, Finsterwalde, Gaartz, Putnitz, Rangsdorf, and Zerbst.

MIG EVALUATION.—U.S. Air Force evaluation of the MIG-15 reveals the following points. Top speed is 584 knots. There are three versions of the MIG-15 in operation against United Nations forces in Korea. In configuration they are the same, but thrust of a later model has been increased, through engine development, by about 1,000 lb. Two are day-fighter types and the third carries radar for night and all-weather interception. With water injection, maximum thrust is increased to 6,750 lb. The 50-inch overall diameter of the original British engine remains unchanged, and materials used in the Russian power plant are similar to those used in the Rolls-Royce Tay and Pratt and Whitney J-48. The MIG power plant weighs approximately 2,000 lb. It climbs at about 9,500 feet per minute or up to 30,000 feet in under six minutes. Above that altitude its performance is phenomenal to about 50,000 feet, its ceiling. Early models of the MIG-15 had a fuel capacity of approximately 330 gallons without drop-tanks, although some later versions are reported to be equipped with external wing drop-tanks. Steel is used in the MIG-15 at many points where highly concentrated loads are encountered. There is no provision for installation of I.F.F. or other radar equipment in the 1948 version of the MIG. Wing-span is 33 feet and the average airfoil section thickness is approximately 11 per cent. The wing in plan-form is swept back 42 degrees and incorporates conventional control surfaces. The horizontal tail surface, spanning 14 feet 10 inches, is also swept 42 degrees. The fuselage is of conventional semi-monocoque construction with stressed metal skin used throughout. Armament consists of two 23-mm. automatic cannon located on the lower left side of the nose and one 37-mm. automatic cannon on the lower right side of the nose.

SOVIET PRODUCTION.—Eleven aircraft industry plants (including at least three underground) are now located in the Kuibishev area of the Soviet Union. Factory No. 1, the 'Stalin' plant, is producing about two MIG fighters a day, and No. 18, the former Ordzhonikidze factory, is believed to be still building attack bombers (at the end of 1950 it was turning out one Ilyushin Il-10 a day).

SAUDI ARABIA

TRAINING FOR THE AIR FORCE

Passed as fully qualified jet-fighter pilots during October from a R.A.F. Operational Conversion Unit at Chivenor, in North Devon, were two young Saudi Arabians, the first pilots of that country's newly created Air Force. The nucleus of this Force is being trained in Great Britain by the Royal Air Force.

SWEDEN

NEW TRANSPORT AIRCRAFT.—The C-in-C., R.S.A.F., proposed in the budget estimates for 1953-54 the purchase of new transport aircraft to replace the B93s at present held on the strength of the ground attack wings.

VENOM NIGHT FIGHTERS ORDERED.—It has been announced in Stockholm that Sweden has placed an order with the de Havilland Aircraft Co., Ltd., for a number of Venom night fighters. Deliveries of the first of these aircraft, which will be fitted with de Havilland Ghost jet engines built under licence in Sweden, are due to start later this year.

UNITED STATES

TWO NEW AMERICAN MISSILES.—Two new guided missiles are being built for the Air Force, the Northrop XB-62 Snark and Bell XB-63 Rascal pilotless bombers. Unlike the Grumman F6F Hellcats guided by mother aircraft now being used as missiles in Korea, these two aircraft were designed for bombing. The Northrop Snark is a surface-to-surface missile designed for long-range operations, while the Bell Rascal is launched from an aircraft toward a ground target. The U.S.A.F. has at least one other pilotless bomber, the Martin B-61 Matador, and two supersonic pilotless interceptors, the Boeing XF-99 Bowmark and the Hughes XF-98 Falcon.

AUTOMATIC AIR DEFENCE.—The newest technique in air defence is the automatically controlled, pilot-monitored, interceptor fighter, exemplified by the Lockheed F-94C Starfire. By means of its special electronic equipment this machine locates its quarry, 'locks on' to it, tracks it, closes in, and aims and discharges its battery of rocket projectiles—all automatically. This leaves the pilot and/or radar operator with the responsibility of taking off, manoeuvring into the general target area, switching on the appropriate electronics at the appropriate time, monitoring the piloting and rocket-firing gear during the attack, and returning to base with the aid of an automatic pilot, Zero Reader, and I.L.S. A similar 'automatic' interception system is rumoured to have been developed for the all-weather F-86D Sabre single-seater, which, like the Starfire two-seater, is armed with 2.75-inch solid-propellant, folding-fin rockets, though these are believed to be launched from a rotary discharger in the bottom of the fuselage instead of through the nose annulus as on the Starfire. An even more advanced link-up of electronics and armament is likely to characterize the Convair, Republic, and Lockheed "1954" supersonic interceptors for which guidance equipment has already been ordered from Hughes Aircraft, and which may be armed with a single large internally stowed missile apiece.

FIRST TRANSATLANTIC HELICOPTER FLIGHT.—Two Sikorsky H-19 helicopters on their way from the United States to Wiesbaden, Germany, arrived at Prestwick airport at 4.5 p.m. on 31st July. They left Westover Air Force base in Massachusetts on 15th July, flew to Narsarsuaq in Greenland, and reached Keflavik, Iceland, on 29th July, covering 840 miles between Greenland and Iceland in 9 hours 15 minutes flying time. They left Iceland shortly after 6 a.m. on 31st July. Three members of the helicopters' crews have been in Korea and have flown a total of more than 290 rescue sorties. The helicopters are standard machines with long-range tanks. At Wiesbaden they joined Flight D of the 9th Air Rescue Unit, U.S.A.F.

1,234-MILE HELICOPTER FLIGHT.—The Bell Aircraft Corporation claimed recently that Mr. Elton J. Smith, one of its test pilots, had broken the world's non-stop distance record for helicopters. He took off alone from the Company's Fort Worth, Texas, plant in a Bell model 47D-1, a three-seater, and landed at Niagara Falls airport, having flown non-stop over a distance of 1,234 miles. The previous record of 703.6 miles, recognized by the National Aeronautical Association, was made on 22nd May, 1946, by Major F. T. Caschman of the U.S.A.F., in a flight from Dayton, Ohio, to Logan Field, Massachusetts, in a Sikorsky 4-5.

HELICOPTER CARRIES MIG.—A Sikorsky H-19 helicopter flew 35 miles behind the Communist lines in Korea and brought back for intelligence inspection a MIG-15 fighter which had been shot down. Operating from a small island off the West coast of Korea, the H-19 flew to the scene and a ground crew dismantled the aircraft with the help of hand grenades. It was then loaded in sections into the cargo hold of the H-19 and flown back to base successfully. The H-19 encountered heavy anti-aircraft fire on the way back and received a hit in a rotor blade. The helicopter weighed over 8,000 lb. with the MIG loaded in it, more than 1,000 lb. overweight.

U.S.A.F. ACCIDENT RATE DROPS.—U.S.A.F. jet fighter accidents per 100,000 hours flown during the first half of this year totalled 79 compared with 101 for the same period last year, and 97 during the last half of 1951. Bomber mishaps dropped from 26 in the

first half of 1951 to 18 in the first six months of this year. The Air Force's major accident rate during the initial half of this year totalled 29 for each 100,000 hours flown.

X-3 READY FOR TESTS.—The Douglas X-3, a special research aircraft designed for speeds of more than 2,000 m.p.h. has arrived at Edwards Air Force Base, California, for final preparations for its initial flight, which is expected to be made later this year. Originally, the X-3 project was an Air Force design study directed towards the development of a design capable of Mach 3 at altitudes between 200,000 and 300,000 feet. Subsequently, a prototype was ordered, with the Navy joining in, so the X-3 is now a joint U.S.A.F.-Navy-National Advisory Committee for Aeronautics project, part of the high-speed flight research programme.

U.S. AIRCRAFT INDUSTRY OUTPUT.—The U.S. aircraft industry has delivered more than 10,000 aircraft to the military Services since the outbreak of war in Korea, according to Admiral De Witt C. Ramsey, President of Aircraft Industries Association. Writing in an issue of *Planes*, the official A.I.A. publication, Admiral Ramsey said that the overall production rate has increased by more than four times, and production of bombers and fighters for the Air Force has increased fivefold. In terms of airframe weight, U.S.A.F. fighter production has increased six times and bomber production seven times. Admiral Ramsey said that the aircraft industry will reach its production peak in December of this year, when it will attain a rate of between 1,000 and 1,100 aircraft a month for military purposes. "Unless work stoppages or shortages of material intervene, aircraft output this year will substantially meet existing schedules," he added. Nonetheless, Admiral Ramsey pointed out, the industry is far from saturated, nor does current planning indicate that it will be called upon to produce to the limits of its capacity in the near future.

U.S. TRANSPORT COMMAND ADOPTS REAR-FACING SEATS.—Under a new requirement of the Military Air Transport Service, all future American Service transports will be equipped with rearward-facing seats, and present equipment is being modified to the same configuration. The first new transport to be delivered under these rules will be the Convair C-131, a variant of the CV-240 scheduled to join M.A.T.S. early next year. Like most airliners to-day, the C-131 will take a leaf out of B.O.A.C.'s book in having a white-painted cabin top.

REVIEWS OF BOOKS

GENERAL

Generals and Admirals—The Story of Amphibious Command. By Captain John Cresswell, R.N. (Longmans, Green.) 18s.

The previous accounts of the representative amphibious operations which are described in this book often contain a wealth of logistic detail, orders of battle, and the like; each operation is usually a story by itself, with no reference to or comparison with what had happened before. All this information is very necessary for certain requirements. One important aspect of these affairs, however, although not entirely ignored in the earlier accounts, has seldom received the attention it merits. This is the system of command which obtained at different times. Captain Cresswell has now remedied this omission in a re-examination of some of the more well-known examples of this form of warfare from Elizabethan times to the present day, and it is from this angle alone that he writes.

By taking a series of events at different periods during the past three and a half centuries he describes not only the contemporary practices with their inherent defects, but also how the results achieved in later years varied with the adoption of systems more suited to the age in question, and also with the sometimes conflicting personalities of the chief actors concerned. The reader can therefore obtain a clear idea of how the system of command has been progressively improved, which would not be the case if he merely studied a single campaign which may have been well or badly conducted.

The serious historian may possibly say that the author has tried to cram too much into too little space and that his documentation is too scanty. But this story of amphibious command is evidently written for a wider public, who will probably prefer more 'meat' and be less interested in the trimmings. Viewed from this latter angle, Captain Cresswell has succeeded in producing a readable and informative account of how the system of command has changed from time to time in the many amphibious expeditions which have been undertaken during the period under review.

After the earlier period when the officers in command were part soldier and part sailor, and the term "Admiral" denoted the post and not the rank, the changes in the system of command are traced down to the present day. The formal and cumbersome Council of War is seen for the last time during the early part of the Seven Years War. The system then settled down to one of joint command, each principal commander being responsible only for his own Service. In the 1939-45 War circumstances arose which gave rise to the appointment of a Supreme Commander who was responsible for all three Services—for the air had by then come into the picture. Whether this last innovation is the answer to the problem is still a moot point upon which the author does not presume to dogmatize, though, other things being equal, he expresses a preference for joint command. Both systems were used in the last war, but what was an unqualified success in some instances might not have been so in others.

The book is nicely produced in clear print, and simple maps accompany the description of five of the campaigns which are examined in detail. The index is adequate, except that it is considered preferable to give the rank of an officer according to his last mention in the book rather than that to which he ultimately attained. Two minor points of criticism arise. On page 29, it is stated that Sir John Leake had no naval battle to his credit when in chief command. This is hardly fair to Leake, since he was in command of the Allied fleet which completely destroyed de Pointis' squadron off Marbella on 10th March, 1705, both Rooke and Shovell being then in England.¹ And on page 68 *et seq.*, Durell has been incorrectly shown with a second "r" to his name. On the whole, this book is to be cordially recommended.

¹ *The Life of Sir John Leake*, I, xxxiv.

War for the World. By Fletcher Pratt. (Geoffrey Cumberlege: Oxford University Press.) 32s. 6d. (Yale University Press.) \$5.

Volume 50 of "The Chronicles of America" series records the achievement of the United States fighting forces in the 1939-45 War, a big subject to tackle in less than 350 pages. Mr. Pratt may be congratulated upon the way he has done so, for his sense of proportion is admirable and his judgment rarely at fault. This is, of course, American history, and for Americans the war begins with Pearl Harbour; it is only natural, therefore, that the struggle against Japan in the Pacific should occupy half the book. As we know, the tale is primarily one of sea and air forces which achieved the conquest and reconquest of island bases, but heavy fighting on land formed an essential part of the operations, notably in the Solomons, in New Guinea—where Australia played her part—and in the Philippines.

The recital of these great events is halted at appropriate intervals in order to preserve a reasonable chronological sequence. Thus, Pearl Harbour is followed by a chapter on the development of the American war potential and the Allied method of conducting the war. In due course come the anti-submarine struggle in the Atlantic and elsewhere, and the campaign in Tunisia, followed by Sicily and Italy. Mr. Pratt seems very dissatisfied with the campaign in Italy where the United States and Britain were equal partners; even so, he might easily have rounded off this part of his story to better advantage. The strategic air offensive against Germany links up later with the invasion of Europe in 1944, a straightforward account which some controversialists may regard as over-simplified. One must point out that no airborne troops were dropped by us around Rouen and Le Havre on D-Day, that Montgomery was not in command of our Second Army when the invasion was launched, and that Rommel was never in supreme command of the German forces in North-West Europe.

Eisenhower, it may be remarked, is described as capable of achieving the strategical impossible, Bradley as possessing enormous tactical skill. Montgomery is called irritatingly slow in Italy, but not so slow as General Mark Clark who, it is said, was "quite lacking in the strategic sense and driving ability Montgomery so richly had." Admiration for America's 'carrier-admirals' of the Pacific is implied rather than expressed in plain terms.

Finally Mr. Pratt emphasizes that the victory of American arms was a technological victory rather than one of the battlefield; indeed, he claims no superiority for the American fighting man as such. He duly acknowledges the British and the Russian share in the final triumph, but claims that the United States introduced a new art of war—a real total war for which all national resources were properly integrated in a fashion beyond the conception of the Axis Powers.

Mr. Gavin has provided many attractive sketch-maps. Even when they are of only half-page size they are clear, and contain considerable detail.

The Origins of the War of 1914. Volume I. By Luigi Albertini. Translated and edited by I. M. Massey. (Oxford University Press.) 50s.

Senator Luigi Albertini, as editor of the *Corriere della Sera*, was in close touch with international affairs from 1900 to 1914; and towards the close of his life he gathered and prepared for publication a critical consideration of the immense mass of published documents and accounts dealing with the origins of the 1914-18 War. Albertini died before his work was completed, and the Italian edition was published in Milan during the 1939-45 War. This volume deals with European relations from the Congress of Berlin to the eve of the Sarajevo murder. Two other volumes are promised.

This is a remarkable book, excellently translated, written with strength, dignity, and decision. There are altogether over 600 pages, and at most important crises affairs are dealt with not only on a daily basis, but from minute to minute. Evidence, drawn from original sources and from over 120 publications, is handled with objectivity and courage.

Most attention is concentrated on the period between the Anglo-French *entente* of 1904 and June, 1914. The many Balkan shuffles and complications are patiently described; Algeçiras, Agadir, the Scutari crisis, and the constant tensions between the great Powers are fully illustrated. Most European diplomats appear as completely ignorant of the realities of the situation. Ministers indulged their ambitions, revenged insults, wielded blackmail, used forgeries, exploited prejudices. Private talks flourished, new formulæ were constantly being invented, letters exchanged, intrigues unmasked or set afoot. There was much extraordinary cunning shown by those in charge of affairs. The possibility of war was always in the air and constantly mentioned, yet no one ever seems to have considered the final outcome. Countries were spoken of as though they were unchangeable human beings with personal characteristics.

Occasionally something happened which showed that all these finely adjusted schemes were being spun over a cannon's mouth. The Young Turk revolution in 1908 stopped many careful plans dead. The Italian invasion of Tripolitania and Cyrenaica in 1911 did not run at all according to pattern. The results of the First Balkan War next year came as a shock, for in a month the much-fancied Turkish field armies were fighting desperately to save Constantinople. And the whole boat rocked again when, in 1913, a treacherous Bulgarian attack on their former allies was destroyed in a fortnight. But the dangerous and stupid diplomatic games went on. Only Great Britain seems to have felt any sense of restraint. Grey did not at any rate desire a war, and apparently recognized that once any absolutely irretrievable move was made there was no telling what might happen, except that it would probably be bad.

The world of 1914 has gone for good, largely through its own actions. The towns, districts, even nationalities and Empires, so important in this book, are now often dead and forgotten, not even ghosts. Their statesmen, diplomats, and Emperors were in truth little men; the Kaiser for example wrote like a cheap novelist. The tradition in which they worked seems now so strange as to be almost incomprehensible. Theirs was an isolated and self-destructive world; whatever its virtues were, they were not political.

The Suez Canal in World Affairs. By Hugh J. Schonfield. (Constellation Books.) 15s.

Mr. Schonfield, who has studied the history of the Suez Canal exhaustively, has written an extremely pertinent book on the subject that should command a ready sale. It is both authoritative and interesting, a combination that augurs well for its success.

The history of the Canal itself is a fascinating one. The first direct link between the waters of the Red Sea and those of the Mediterranean dates back to nearly 2,000 B.C. and from time to time since then other canals have been constructed. Egypt, Persia, and Rome were the nations that achieved this work, though none of them retained their power long enough to make the link a permanent one.

It is, however, when Ferdinand de Lesseps steps on to the stage, and the story comes down to comparatively modern times, that the book becomes of real and vital interest. The author shows us how the great plan took shape and how its final achievement brought into being the Suez Canal as we know it to-day. It was the underlying principle of de Lesseps' triumph that the Canal should stand as an inviolable waterway dedicated to the service of mankind, but the exigencies of war and of what is known as 'power' politics have decreed otherwise.

The author, in this history of the Canal, brings it fully up-to-date with a description of its role throughout the 1939-45 War and during the recent unhappy troubles in Egypt. He comments, too, on its strategic importance both to the British Commonwealth and to the Powers of Western Union.

This should prove a book of enduring value, for Mr. Schonfield has written it objectively and dispassionately, presenting the full historical background required for an understanding of the place in world history occupied by the Canal.

The Nile. By H. E. Hurst, C.M.G., M.A., D.Sc. (Constable.) 30s.

The Nile valley, something over 4,000 miles in length, has always played a great part in the history of Egypt. It is the source of all that nation's prosperity for, in its essentials, Egypt consists of the Nile valley and desert. There is nothing else.

This is the reason why Egypt, not only at the present time but also in her past history, has always been intimately concerned with the unity of the Nile valley, for upon the uninterrupted flow of water depends her entire existence. Without it, the nation would become a desert and all life and commerce would come to an end.

Mr. Hurst, the author of this book, has spent almost all of his working life on the Nile. He was scientific consultant to the Egyptian Ministry of Public Works and as such was brought into close contact with all work designed to increase the flow of the Nile waters and to irrigate the surrounding countryside. To him, too, came all projects for using the river to produce hydro-electric power, so that his knowledge of his subject is both intense and intimate.

His book, well-written and readable, has about it that authority that can only come of deep personal knowledge. Just enough technical detail is given to make his subject thoroughly understandable to every reader, and not too much to kill the interest of the layman with a mass of technicalities. The book is well illustrated and appears most opportunely at a time when the problems of Egypt and the Sudan are very much to the fore.

NAVAL

Valiant Occasions. By J. E. Macdonnell. (Constable.) 15s.

In this book the author, who was a gunnery officer in the Royal Australian Navy, describes the valiant deeds of the Royal Navy and Royal Australian Navy in the 1939-45 War. It is not, as might be assumed from its title, a history of British warships bearing the name *Valiant*. It describes events of great historical importance and deeds often marked by high courage, determination, initiative, and skill. Naval war, however, is largely made up of the unlighted drudgery of patrol and convoy work, and the reader is asked to remember that the nerve-tingling shout of "Enemy in sight" is but the climax of weeks, months, or even years of monotonous preparation. After the enemy has been routed or sunk, the ship's company returns to drills and patrols till the call "Enemy in sight" once again goes out to its turrets.

Lack of space forbids more than a brief mention of the contents of the book's nineteen chapters. Thus, Chapter Two describes the tragic fate that overtook H.M.A.S. *Sydney* on 19th November, 1941. That afternoon she sighted an unknown merchant ship which identified herself as the Dutch *Straat Malakka*, but which proved to be the German armed raider *Kormoran*. For the history of the subsequent events one must rely on the *Kormoran's* survivors, but their story bears the imprint of truth. The *Sydney* closed rapidly and only a mile separated the two ships when the *Kormoran* hoisted German colours and opened fire. Her first salvo hit the *Sydney's* bridge. In the subsequent action both the *Sydney* and *Kormoran* suffered mortal damage, and when the *Sydney* steamed away she was in a sinking condition. She was never seen or heard again. By closing an unidentified ship she had laid herself open to a fatal attack by a vastly inferior enemy; a vital lesson for cruiser captains in time of war.

Subsequent chapters of the book describe the deeds of the destroyer *Stuart* at Matapan; the ill-fated attack on Dakar in September, 1940; the tragic loss of the *Prince of Wales* and *Repulse*; the last fight of the destroyer *Glowworm*; and the destruction by enemy aircraft of the aircraft carrier *Hermes* and the destroyer *Vampire* in the Indian Ocean.

Chapter Nine tells of the epic fight of the Australian sloop *Yarra* with a Japanese naval squadron in March, 1942, in which the *Yarra* faced odds "that would have vindicated her had she run for her life" and were reminiscent of the last fight of Grenville's

gallant *Revenge*. In the following chapter the author describes the midget submarine attack which crippled the German battleship *Tirpitz* in 1943. The *Tirpitz* was subsequently destroyed by R.A.F. bombs in April, 1944.

Chapters on the Java and Coral Sea Battles follow; other chapters describe the part played by the destroyer *Duncan* in the Battle of the Atlantic, and the end of the *Canberra* at Savo Island. Chapter Seventeen tells the immortal story of the *Jervis Bay*. The book ends with graphic descriptions of the Battle of the River Plate and of the destruction of the *Bismarck*. It is not illustrated and regrettably contains no index, but is well printed and bound. It provides thrilling reading in non-technical language and is a most useful contribution to the history of the 1939-45 War.

ARMY

More Battlefields of England. By Lieut.-Colonel Alfred H. Burne, D.S.O. (Methuen.)

21s.

Of the 18 battlefields considered by Lieut.-Colonel Burne in his new book, *More Battlefields of England*, eight belong to the era prior to the Norman conquest. The records covering them are few in number and often of doubtful value, and in some cases even the locality is in dispute. The solution of such riddles is not easy and at times the author has made wide assumptions on very little evidence. His theory of "Inherent Military Probability" can only carry weight when it is based on much firmer data, and it is dangerous to depend on it so much for these eight campaigns.

The remaining ten battlefields are not so well known to the general reader as are the majority of those dealt with in his original work, but he handles them with the same care and, with better supporting material, arrives at conclusions which will interest many and satisfy most.

The great value of this book lies in the fact that it records the little we really do know about these old battles and, like its predecessor, it should inspire many a local authority and antiquarian to seek for more information concerning them. Its provocativeness almost incites one to rush to the sites, but those who do not intend to 'argue the toss' will find in it the excuse for many a happy ramble over the countryside with this book as their guide.

A sequel should, however, contain as good, if not better, material than the original and this is unfortunately not so in the case of this book. It would seem a pity therefore that, when planning it, Lieut.-Colonel Burne did not widen its scope to cover some of the better known battlefields of Scotland and Wales.

Few can deal with this subject in the way he does, for he has the knack of making these battles live before our eyes, and one can only hope that he will find time to convert his work into a trilogy. It would be very interesting to have his views on the last invasion of this Country in 1797, which led to the emblazoning on the guidon of the 302nd Field Regiment (Pembroke Yeomanry), R.A., T.A., of the battle honour of "Fishguard," which, after all, is the only one to commemorate an engagement in this Country.

Prisoners of Hope. By Michael Calvert. (Jonathan Cape.) 16s.

If the theory and organization of Long Range Penetration is General Wingate's, its practice and success must belong very largely to the brigade commanders who operated it in the jungle of Burma. One of these brigade commanders is the author of this book, and in consequence his words must carry authority and weight.

It can be said at once that he has written a fascinating account of the operations of 77 Brigade after it was flown into the jungle in 1944. His operations were part of a much larger campaign, and the success of the whole can be judged not only by the effect it had on the Japanese lines of communication, which were seriously threatened for a long period and produced an ever-increasing strain on enemy formations and supplies, but also by its active participation in the main battle itself, culminating in the capture of

Mogaung which at the time was holding up General Stilwell's advance in North Burma.

It is a story of hardship and great endeavour, and one that deserves to be read and studied. In places it becomes a little difficult to follow, the author suddenly switching from his main theme to interpolate an account of something that occurred elsewhere and at a different period. There is, also, evidence in the author's account of an occasional tendency towards impatience, and a lack of tolerance that may have made even more formidable the difficulties under which the Brigade struggled to its final goal.

Nevertheless, this is a most interesting book, dealing with one aspect of jungle warfare that has not, as yet, received its full measure of appreciation and study. At the same time, it tells a story of matchless courage and of incredible endurance, and it is certainly not a book to be missed.

Von Rundstedt. By Guenther Blumentritt. (Odhams Press.) 16s.

This book ought to be read by every serious student of the 1939-45 War. The author first met Field-Marshal Von Rundstedt in 1926, and joined his staff in 1932. He served under him throughout most of the war, first as G1 (Ops), then as his Chief of Staff, and finally as a formation commander. The whole tone of the book shows Von Rundstedt as a commander who inspired devoted loyalty, not only among his own staff but among all who served under him.

But this is emphatically not the usual type of whitewashing book, too often written by senior officers after wars. The author has not protected his hero's reputation by blackening that of other prominent Germans, with the possible exception of Hitler who comes in for many hard knocks. Relations between Rundstedt and Rommel, for example, must have been rather difficult just before the Normandy invasion, owing to the fantastic chain of dual responsibility devised by Hitler. But the account of all this is scrupulously fair to the younger marshal. Not once in the book is the blame for failure laid upon Germany's allies, though the poor fighting qualities of some of the divisions, formed from released prisoners, is mentioned as one of the sources of German weakness in the West.

Operations in Poland, the Dunkirk campaign, Russia, and the final phase in the West are described with the clarity of an experienced staff officer, but without the overloading of detail which one sometimes finds in a staff officer's account. Though written by a German, the book is by no means lacking in a dry and pleasant humour—perhaps sometimes unconscious humour, as when it is stated that the Italians, immediately after Mussolini's jackal attack upon France, desisted from using airborne troops behind the French frontier troops because this would be an unchivalrous method of war!

For British readers the most interesting chapter is perhaps that describing the situation in France during the Summer of 1940. According to the author, the German forces in France, from field-marshal to private soldier, regarded the proposed invasion of England as a mere propaganda 'stunt' of Hitler's. Operation Sealion was never seriously studied by commanders and staffs. No training was given to the troops. The *Wehrmacht* in France spent the Summer, according to the author, in a genial atmosphere of sight-seeing and amicable social collaboration with the French.

Other stages of the war on which new and interesting light is thrown are the Dieppe raid and the preparations against our re-invasion. Altogether the book is a soldierly account from the late enemy's point of view, written without rancour and pleasant to read.

Blue Flash. The Story of an Armoured Regiment. By Alan Jolly. (Solicitors' Law Stationery Society.) 21s.

This book, as General Sir John Crocker remarks in his foreword, "is the story of the evolution and development of a fighting Regiment." Originally a new battalion of The East Lancashire Regiment, it was converted to armour in the infantry tank role in March, 1941, becoming 144th Regiment, R.A.C. In March, 1945, the unit was honoured by being renamed 4th Battalion, Royal Tank Regiment, whose original personnel were captured at Tobruk in 1942.

After many moves, false alarms, and strenuous training, the unit disembarked near Arromanches on 14th June, 1944. Gaining its first war experience in the bridgehead, the Regiment, usually co-operating with 51st Division, took part in the break-out and subsequent advance; the capture of Havre; fighting in Holland and the Ardennes; and finally, in the Rhine crossing and pursuit to the Elbe. The unit had the good fortune to demonstrate new techniques; first, in the night attack South of Caen on 7th/8th August; and secondly, re-equipped with "Buffaloes," of ferrying units and their transport across a major water obstacle.

The narrative, well-written and clear, interspersed with comments on men and things, as well as flashes of humour, not only tells the story of a fine unit, but is a source of material for a study of minor tactics. The final chapter, "Some Military Reflections," based on the Regiment's experiences, should give readers of all arms food for thought, especially on the all-important matter of co-operation in battle.

This is a well-produced, illustrated volume of 168 pages, with adequate sketch-maps, an index, Roll of Honour, and a list of Honours and Awards. All concerned are to be congratulated on this "memorial and memento" of the unit, which should also be a source of inspiration to present and future members.

History of the Corps of Royal Engineers. Volumes IV and VII. Edited by Major-General H. L. Pritchard. (The Institution of Royal Engineers, Chatham.) 35s. a volume.

Volume IV, written by Brigadier-General Baker Brown, is designed to fill some of the gaps in the history of the Corps left by previous volumes. There is a general narrative covering the period from 1885 to 1914, followed by chapters on special subjects, which also record the genesis of the Royal Flying Corps and another offspring of the Royal Engineers—the Royal Corps of Signals. It is a stimulating story of efforts to keep abreast, and even in advance, of the times, despite various financial blizzards. The services of the Corps in China and the Colonies, particularly in East and West Africa, are described in three interesting chapters. Not only did Royal Engineers take part in the many small wars of the period, but helped in the development of darkest Africa in many ways, including the provision of successful Governors.

Volume VII concludes the history of the Corps in the 1914-18 War with the campaigns in Mesopotamia, East Africa, and Persia, narrated on the same excellent plan as in Volumes V and VI.² These operations differed in magnitude, though all three took place in countries whose conditions and climate increased the perennial difficulty of making bricks without straw. In Mesopotamia, bridging was the main operational task throughout. But there were many troublesome problems on the lines of communication, well described in separate chapters, one of which deals with the improvement of the port at Basra and the evolution of the Inland Water Transport, which did so much to ensure the final success of the campaign. One of the many troubles of the Engineers in this theatre of war was the lack of local material, especially wood and stone.

This volume also covers the inter-war period, 1918 to 1939. It describes the struggle "to preserve the germ which might be capable of expansion" in case of need, and developments of all kinds, such as mechanization, bridging, and the research which led to one of our war winners—the Bailey Bridge. A chapter on fortification and works deals with the reconstruction after the Quetta earthquake and the construction of the Singapore base.

Both volumes contain in the text and in appendices much personal, sporting, and domestic records of great interest to the Corps. The editor and authors have succeeded in showing the variety of work demanded of the Royal Engineers and the obliquity of their activities.

² See JOURNAL for August, 1952, page 485.

The London Rifle Brigade, 1919-1950. By Majors A. T. M. Durand and R. H. W. S. Hastings. (Gale and Polden.) 25s.

This is the story of a well-known London Territorial unit between the two World Wars, of its services in the Second, and the sad post-war period when, failing to obtain sufficient recruits, it was amalgamated with The Rangers. In 1941, the two original battalions were renamed 7th and 8th Battalions, The Rifle Brigade.

The 7th Battalion arrived in Egypt just in time to come into action during the closing stages of the defence of the El Alamein position before taking part in the battles of Alam Halfa, El Alamein, and the final advance into Tunisia. After some months' rest and training in Egypt, the Battalion went to Italy where, serving in 6th Armoured Division, it spent a strenuous time in the long, spasmodic offensive up the Peninsula. After the break-through, the unit led the division into Austria with great dash.

Landing in Normandy after a long wait at home the 8th Battalion, serving with 11th Armoured Division, saw some difficult fighting in the bridgehead before the break-out and drive to Antwerp. Winter spent in the Low Countries was enlivened by a sudden call to hold the Meuse bridges during the German offensive in the Ardennes, and then, after many vicissitudes, the Battalion finished the war by heading the division's advance to Lübeck.

The narrative of the services of both battalions is of considerable interest, as it gives a clear picture of the exacting tasks which fell to a motor battalion in very different types of country. A point is made throughout of *esprit-de-corps*, but some chapters bear traces of cynicism. The volume (320 pages) is well produced, illustrated, and contains the usual appendices and an index. Riflemen may well be proud of the inspiration which this history provides.

AIR

Khaki and Blue. By Colonel Ronald Sherbrooke-Walker. (Saint Catherine Press.) 10s. 6d.

Besides being a personal account of the author's experiences during the war, first as a local defence commander on R.A.F. airfields and later as a staff officer, this book deals at some length with the problems which arose in the early days of airfield defence in the United Kingdom, particularly the training aspect. The vast and rapid expansion of the Royal Air Force, and the priorities laid down for the defence of the Country against air attack, left little time or opportunity for any basic general service training of the majority of officers and men, and it was not until the defence of airfields against enemy land or airborne attack became a matter of first importance that the uphill task of giving the airmen on the ground some small measure of military training had to be tackled.

The difficulties and frustrations experienced by those whose task it was to get some ground defence organization started on the right lines were immense and at times almost overwhelming. But the difficulties were overcome although the frustrations continued, and success was finally achieved by the hard work of so many attached army officers, combined with a sympathetic understanding of the particular problems with which the R.A.F. was faced at that time. The circumstances which finally led to the formation of the R.A.F. Regiment early in 1942 are also related in some detail, but as the book does not set out to be a regimental history it does not carry the story to its conclusion.

Much that is recorded of the early attempts of Home Forces to provide some measure of airfield protection on the ground with the heterogeneous station defence force of all three Services will be of value to the student of these matters. But, in order to stress the many difficulties encountered, the author has painted a gloomy picture of R.A.F. discipline and the difficulties of maintaining what he considers to be proper discipline in the R.A.F. framework. His strictures are not altogether convincing, based as they are on faults and shortcomings which were by no means limited to R.A.F. units and formations at this phase of the war. It seems that many of the difficulties for which the low standard of

R.A.F. discipline is held to be responsible could have been made no easier by an apparent failure on the part of some to appreciate the R.A.F.'s particular problems, and from expecting a too rigid adherence to army standards of training and administration.

It is also apparent from this book that the hope lingered in the breasts of many, both R.A.F. and Army, that the R.A.F. Regiment would develop on the lines of the Royal Marines, and that there was some reluctance to accept the policy laid down for the manning, administration, and conduct of the Regiment within the framework of the R.A.F.

Being a personal account, much in this book is unlikely to be of interest except to those directly concerned with the shaping of the events referred to. It would have been of more value if some idea could have been given of the size and composition of the total force involved in airfield defence, which, it is believed, at one time reached the formidable figure of 136,000 men. Moreover, airfields were not the only places to be defended by this ground force, and the defence organization had to take into account the many vulnerable points equally vital to the air defence of the Country.

Brief reference is made towards the end of the book to the Army's requirement for more men and how these were obtained from the R.A.F. Regiment. Readers of Mr. Winston Churchill's *Closing the Ring* will recall that the Regiment had scarcely existed two years before he was urging that "the largest possible block of the R.A.F. Regiment should be scraped off the airfields and incorporated in the general pool of infantry." And it was some measure of the success of the training and organization of the Regiment that the Prime Minister should also have asked for 2,000 from its ranks "for the upkeep of the Guards." With these facts in mind it is not clear how the protagonists for a corps of 'R.A.F. Marines' could have expected much success.

The book is not easy to read and the persistent use of Christian and nicknames, and references to personalities, make it at times resemble an account of a professional football match rather than a serious criticism and challenge which "the R.A.F. must surely take up."

Nevertheless, in spite of the author's strictures on the discipline of the Service to which he was attached, the R.A.F. would be the first to acknowledge the debt owing to the many other army officers, both Regular and Territorial, who did so much to help, and who provided such first class examples of inter-Service co-operation that the squadrons which they helped to train were able, towards the end of the war, to take their place in the line alongside seasoned units of both Infantry and Anti-Aircraft—a worthy story which has yet to be written.

ADDITIONS TO THE LIBRARY

(* Books for Reference in the Library only.)

GENERAL

- THE SECOND WORLD WAR.** Volume V. Closing the Ring. By Winston S. Churchill. Demy 8vo. 673 pages. (Cassell, 1952.) 30s.
- THE WAR SPEECHES OF THE RT. HON. WINSTON S. CHURCHILL.** Volumes I, II, and III. By Winston S. Churchill. Royal 8vo. 483, 559, and 577 pages. (Cassell, 1951.) 21s. each.
- THE FORRESTAL DIARIES.** The Inner History of the Cold War. By Walter Millis. Large Post 8vo. 541 pages. (Cassell, 1952.) 25s.
- THE PAPERS OF THOMAS JEFFERSON.** Volume V. February, 1781 to May, 1781. Edited by Julian P. Boyd. Medium 8vo. 705 pages. (Princeton University Press, 1952.) \$10.00. Presented by the Publishers.
- This book is the next in a long series of volumes on this subject.
- KING GEORGE V.** His Life and Reign. By Harold Nicolson. Medium 8vo. 569 pages. (Constable, 1952.) 42s.
- LEADERSHIP IN DEMOCRACY.** By the Right Hon. Lord Lloyd. Medium 8vo. 21 pages. (Oxford University Press, 1938.) 2s.
- AMERICA'S MAN OF DESTINY.** An intimate biography of General Eisenhower. By Kelvin McCann. Demy 8vo. 201 pages. (Heinemann, 1952.) 12s. 6d.
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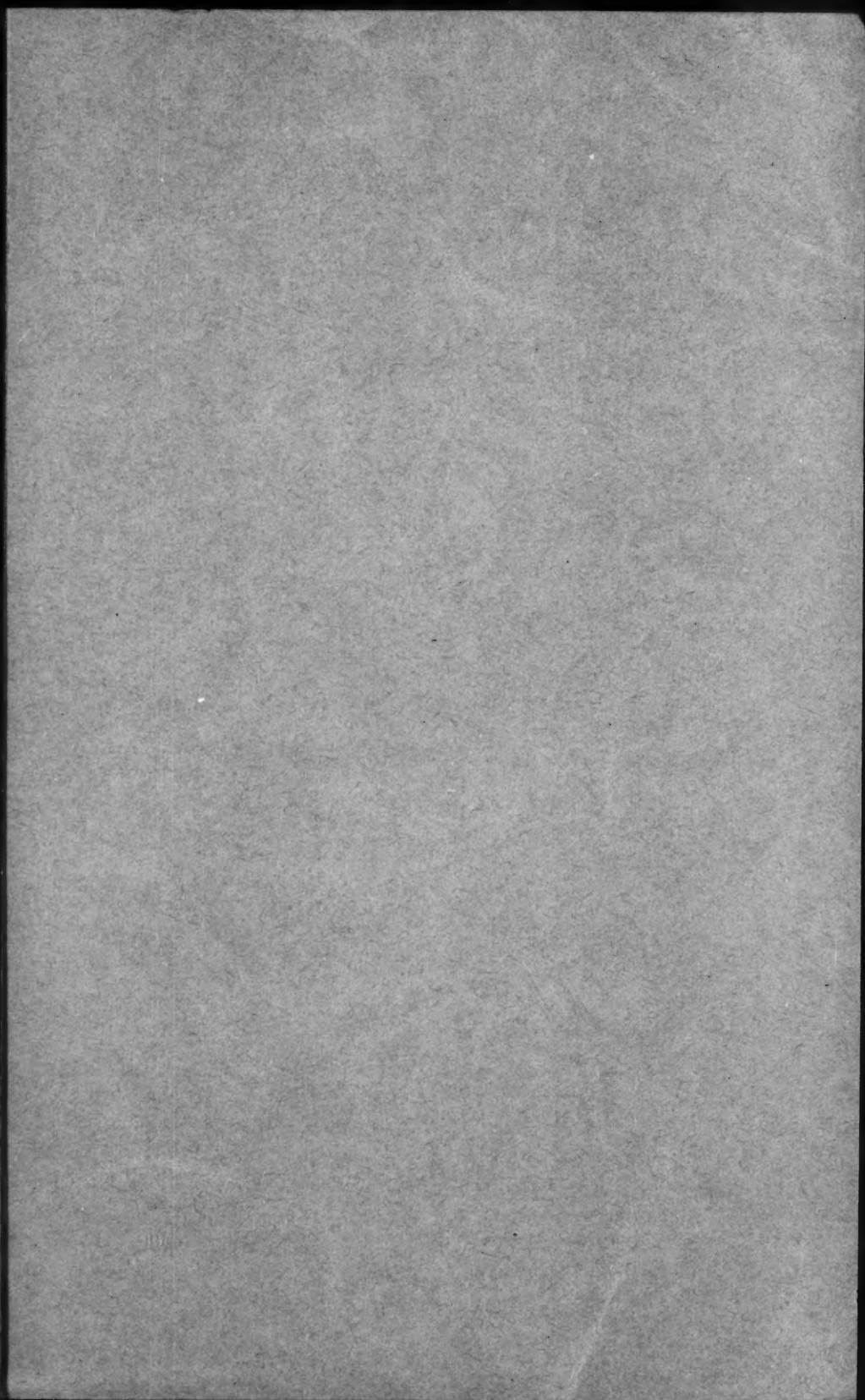
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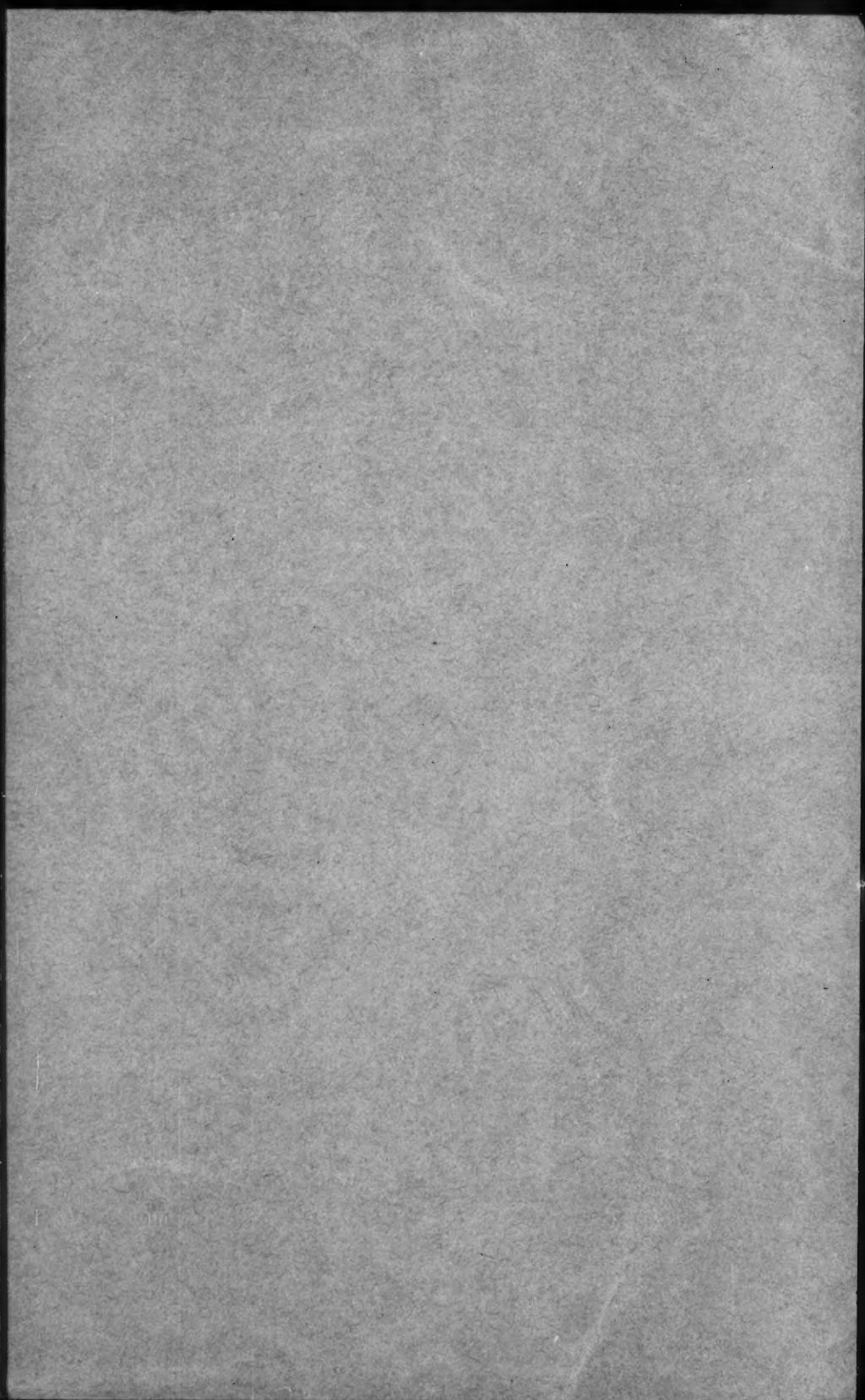
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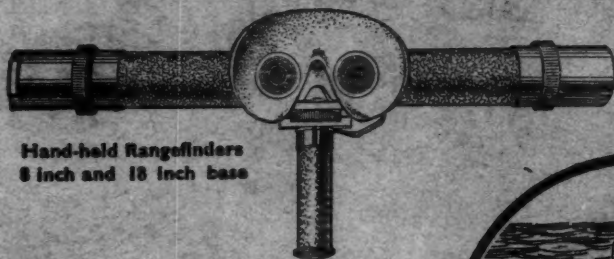


RANGEFINDERS

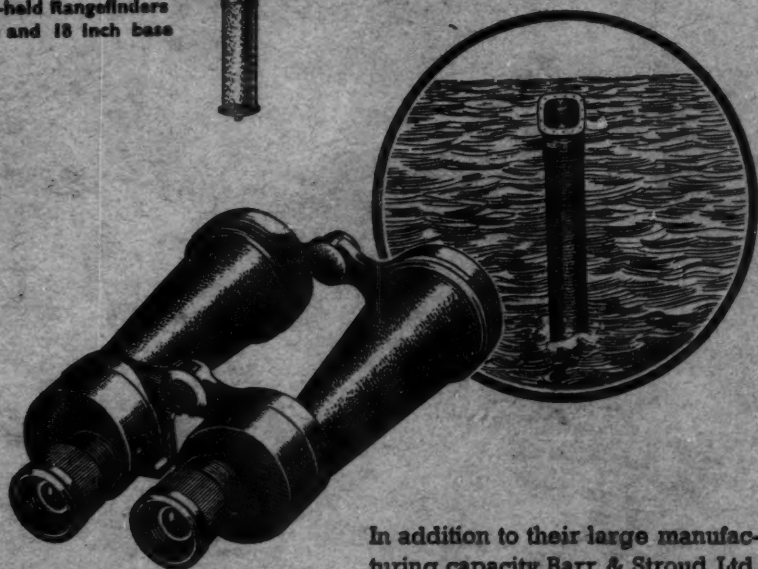
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